DISSERTATION

Methodological Advancements of Cross-Cultural User-Centred Product Development

vom Fachbereich Maschinenwesen und Verfahrenstechnik der Technischen Universität Kaiserslautern zur Verleihung des akademischen Grades Doktor-Ingenieur (Dr.-Ing.) genehmigte Dissertation

von Herrn

Diplom-Wirtschaftsingenieur Björn-Michael Braun

aus Bad Kreuznach

Tag der mündlichen Prüfung: 19.06.2009

Dekan: Prof. Dr.-Ing. Siegfried Ripperger

Prüfungskommission:

Vorsitzender: Prof. Dr.-Ing. Paul L. Geiß

1. Berichterstatter: Jun.-Prof. Dr.-Ing. Kerstin Röse

2. Berichterstatter: Prof. Kun-Pyo Lee, PhD

Preface

I wrote this dissertation during my time as a PhD-student at the workgroup for User-Centred Product Development (USE) at the University of Kaiserslautern from 2006 to 2008. During this time I was supported through PhD-scholarships from the state of Rhineland-Palestine as well as the German Academic Exchange Service for which I am thankful.

This work was inspired by JP Dr. Kerstin Röse of USE. I thank her for that and her support during the course of my research. Also, I owe Professor Kun-Pyo Lee of the Department of Industrial Design at the Korea Advanced Institute of Science and Technology (KAIST) a great debt of gratitude. The support he provided during my stay at KAIST and the efforts he undertook as a member of my PhD-commission were extraordinary. Thank you very much. Professor Paul L. Geiß chaired this commission and I am very grateful for that. He was a wise chairman.

During this research extensive data collecting took place in China and Korea. Professor Zengjie Liu of the Sino-European Usability Center (SEUC) at Dalian Maritime University was an extremely supportive host in China and without Professor Kun-Pyo Lee's incredible help this research would never had happened in Korea. I am deeply grateful for their support!

This research could only be conducted with the support of many local researchers who ran interviews, focus-groups and other user-analysis methods in China and Korea in local language, documented their observations and translated them into English. My utmost gratitude goes to each single one of them. Especially to Jiang Hao for his tireless help in planning, conducting and managing all sessions in China. I really want to thank the whole Chinese team, that is Fei Wang, Hailing Tian, Shijun Xue, Weijie Liu, Guannan Zhang, and Ning Zhang, for the great work they did. From the Korean side I want to point out Daeop Kim and Jungmi Park. Without their support this research would have never been successful. The Korean team, that is Byungjoon Bok, Eunji Choi, Jaehwa Lee, Jieun Shim, Kiwon Lee, Kyungjin Ki, Moonhwan Lee, Sinae Kim, Woosung Park, Dongsan Kim and Seonguk Son, did a brilliant job and I am grateful to had the pleasure working with them.

In Germany, data collection was supported by several ambiguous and smart students. For their help I am very thankful.

The colleagues of USE's partner-chair at the Institute of Production Automation (pak) I want to thank for the great times we spent together. Especially for their always open ears and their moral support I am grateful.

Last but not least I want to thank my family and friends for always being there and supporting me in all phases of my life. Without them I would not be where I am now.

Executive Summary

Product development with end-user integration is not an end in itself but a logical necessity due to divergent types of knowledge of the user and the developer of a product. While the user is an expert in regard to the product's usage the developer is an expert in the product's construction and functioning. For the development of high-end products both types of expertises were a prerequisite at all times.

The efficient and throughout integration of the user's perspective into existing product development approaches is the core of user-centred product development. Activities that are the basic ingredient of just any user-centred development approach can be roughly categorized into analysis, design and evaluation activities. Research and practice prove the early integration of real end-users within those activities to add significant and sustainable value to product innovation. The instrumental, methodological and procedural impact of globalization tendencies, on modern user-centred product development in particular, is the primary research focus of the field of cross-cultural user-centred product development.

This research aims at the further advancement of the methodological foundations of cross-cultural user centred product development approaches based on a stabile and profound theoretical basis. Primary research objects are established user-analysis methodologies, which are mainly based on Western concepts and theories, and their applicability in disparate cultural contexts of the Far East (China and Korea in particular).

For facilitating the adaptation of abstract method characteristics to the situational context of method application as foundation of cross-cultural methodological advancement, a model of method localization was developed. In alignment with internationalization and localization activities within product development processes, a framework for localizing user-centred methodologies was developed. Equivalent to internationalization activities of real product development, the abstraction of method traits from specific methodologies is a necessity in a first step. Methodological adaptation with the primary objective of optimizing situational application of a methodology is to be done in a second step – the step of method-localization.

This model of method localization and its underlying theories and principles were tested within an extensive empirical study in Germany, China and Korea. Within this study the applicability of six distinct user-centred product development methodologies, each with its very own profile of abstract method traits, was tested with 248 participants in total. Results clearly back the basic hypothesis of method-localization, i.e. that the application of a user-centred methodology rises and falls with the alignment of its characteristic traits with the cross-cultural application context. Beyond, applicability-influencing factors identified within this study could be proven to be valid indicators of adaptation-necessities and –potentials of user-centred product development methodologies.

Content

Erklärung

Hiermit erkläre ich, dass die vorliegende Dissertation selbständig und ohne unerlaubte, fremde Hilfe angefertigt wurde. Textabschnitte oder Bilder, denen fremde Quellen zugrunde liegen, enthalten Hinweise und sind im Literaturverzeichnis kenntlich gemacht.

Frankfurt am Main, den 13. Oktober 2008

_____

Björn-M. Braun

List of Abbreviations

AC	Anecdote Circle
AHP	Analytical Hierarchy Process
ASUCMA	Activity System of User-Centered Methodology Application
AT	Activity Theory
CAT	Cognitive Abilities Test
CKE	Creative Knowledge Environment
CP	Cultural Probe
EQ	Emotional Intelligence
FFI	Five Factor Inventory
FG	Focus Group
GUI	Graphic User Interface
HCI	Human Computer Interaction
HK	Hong Kong
I/O	In/Out
ICT	Information and Communication Technology
INS	Inspiration Card Workshop
INT	Interview
LISA	Localization Industry Standards Association
MCD	Method of Culture-Oriented Design
NEO	Neuroticism Extraversion Openness
PLM	Product Lifecycle Management
PUZ	Puzzle Interview
RH	Research Hypothesis
SVS	Schwartz Value Scale
TOTE	Test Operate Test Exit
UCD	User Centered Design
UELC	Usability Engineering Lifecycle

UI	User Interface
UK	United Kingdom
USA	United States of America
USP	Unique Selling Proposition
WPI	Work Preference Inventory

Zusammenfassung

Produktentwicklung unter Einbezug des Endnutzers ist kein Selbstzweck, sondern eine logische Notwendigkeit, die sich aus der Tatsache divergierender Wissensarten von Produktentwicklern und Produktnutzern ergibt. Während der Nutzer über Expertenwissen bezüglich der Aufgabenerfüllung und Anwendungsanforderungen des Produktes verfügt, kann der Entwickler (im Normal-/Idealfall) auf fundiertes Expertenwissen in den Bereichen der Produktkonstruktion und –funktion zurückgreifen. Die Entwicklung hochwertiger Produkte setzt seit jeher beide Wissensarten voraus. Demnach muss die (Wieder)Entdeckung der frühzeitigen und ganzheitlichen Nutzerintegration im Sinne der nutzerorientierten Produktentwicklung nicht als neuartiger Entwicklungsansatz verstanden werden, sondern als die (Rück)Besinnung auf Ansätze des klassischen Handwerks mit dem Ziel der Qualitätssteigerung unter dem Druck des sich intensivierenden internationalen Wettbewerbes und dem gleichzeitig immer kostenintensiver werdenden Wettbewerbvorteils der Technologieführerschaft.

Aufgrund unterschiedlicher Anforderungen und Prämissen der modernen Produktentwicklung im Vergleich zur Einzelfertigung und des Handwerks, sind die eher impliziten klassischen Ansätze der Nutzerintegration kaum auf industrielle Entwicklungsansätze übertragbar, worin sich im Prinzip die Forschung im Bereich der nutzerorientierten Produktentwicklung begründet. Die Integration spezifischer, nutzerseitiger Anforderungen durch strukturierte, den gesamten Produktentwicklungsprozess durchdringende, nutzerorientierte Entwicklungsaktivitäten steht hier im Vordergrund. Diese Aktivitäten, die sich grob und generisch in Analyse-, Design- und Evaluationsaktivitäten untergliedern lassen sind integraler Bestandteil jeglicher nutzerorientierter Produktentwicklungsprozesse. Dabei kommt der frühzeitigen Nutzerintegration eine nachweisliche und nachhaltige Bedeutung bezüglich der Innovationsfähigkeit der Produktentwicklung zu. In Abhängigkeit der vorherrschenden Entwicklungsphilosophie und der entsprechenden Entwicklungsprozessphase wird dem Nutzer dabei die Rolle eines Informanten oder eines Innovators zugeschrieben. Während der Informant vornehmlich als Untersuchungsobjekt mittels unterschiedlicher, dem Untersuchungsziel angepasster, Methoden analysiert wird, um in mehr oder weniger aktiver Kooperation mit dem Untersuchungssubjekt die benötigte Information zu generieren, spielt der Innovator eine proaktive Rolle in der Produktentwicklung, der, als Experte in der Domäne der Produktnutzung, das Entwicklungsteam in der frühen Entwicklungsphase kreativ unterstützt. Je nach Rolle lassen sich unterschiedliche instrumentale, methodologische und prozessuale Anforderungen an die effiziente und effektive Nutzerintegration ableiten.

Durch immer komplexer werdende technische Lösungen, ständiger Innovation in den Bereichen der Telekommunikations- und Kommunikationstechnologie, sowie der kontinuierlich wachsenden Bedeutung globaler Absatzmärkte, einhergehend mit sich intensivierendem Wettbewerbsdruck, steigen die Ansprüche an die nutzerorientierte Entwicklung von Mensch-Maschineschnittstellen stetig. Die Auswirkungen realwirtschaftlicher Globalisierungstrends infolge der sozio-politischen Entwicklung

der letzten 20 Jahre können in diesem Zusammenhang nicht außer Acht gelassen werden. Hierdurch wirkende instrumentale, methodologische und prozessuale Effekte auf die moderne, nutzerorientierte Produktentwicklung sind zentraler Forschungsgegenstand der interkulturellen nutzerorientierten Produktentwicklung. Eine im Rahmen dieser Arbeit durchgeführte Online-Expertenbefragung und eine kritische Analyse bestehender Entwicklungsansätze belegen klar, dass die interkulturelle nutzerorientierte Produktentwicklung methodisch und prozessual bei weitem nicht dem Standard klassischer nutzerorientierter Entwicklungsansätze hat. Im Besonderen mangelt es dem aktuellen Stand an fundierten theoretischen Grundlagen, auf denen methodologische und prozessuale Weiterentwicklungen aufbauen können.

Basierend auf einer stabilen theoretischen Basis soll die vorliegende Arbeit einen Beitrag zur methodischen Verbesserung der modernen, nutzerorientierten und internationalen Produktentwicklung leisten. Forschungsgegenstand sind Effekte der internationalen Anwendung westlich geprägter nutzerorientierter Produktentwicklungsmethodiken in fernöstlichem kulturellem Kontext, im Besonderen in China und Korea. Hieraus sollen Anpassungsnotwendigkeiten und –potentiale der kulturübergreifenden Methodenanwendung abgeleitet und in einem generischen Modell beschrieben werden. Die Entscheidung für gerade diesen Forschungsgegenstand fiel aufgrund der Relevanz des Themas für die Verbesserung und Weiterentwicklung nutzerorientierter Entwicklungsansätze im internationalen Kontext.

Hierzu wurde in einem ersten Schritt ein Konzept zur abstrakten Beurteilung der Anwendbarkeit nutzerorientierter Methoden entwickelt. Basierend auf den Grundlagen der Aktivitätstheorie definiert das Konzept die Anwendbarkeit einer Methode in Abhängigkeit der Realisierbarkeit des Motivs einer nutzerorientierten Aktivität unter Einfluss der spezifischen Eigenschaften einer eingesetzten Methodik, der Wirksamkeit einer Methode bestimmte erwünschte Ergebnisse zu generieren, welche wiederum einen Nutzwert für die Befriedigung des verfolgten Motivs haben. Anders ausgedrückt: Eine Methode besitzt eine hohe Anwendbarkeit, wenn ihre Eigenschaften derart Gestaltet sind, dass sie die Wahrscheinlichkeit der Realisierung des Motivs maximieren, indem sie mit einem hohen Wirkungsgrad die Generierung genau derjeniger Ergebnisse vorantreibt, die zur Motiverfüllung den höchsten Nutzen haben. Auf Grundlage dieser trivialen Überlegung zur Anwendbarkeit einer Methodik können die Haupteinflussfaktoren, nämlich das Motiv der Methodenanwendung, die abstrakten Charakteristika einer Methode, sowie Eigenschaften generierter Ergebnisse genauer beschrieben und in weitere Einflussfaktoren zerlegt werden. Um die Anwendbarkeit nutzerorientierter Methoden im interkulturellen Kontext bewerten zu können scheint ein derart abstraktes Konzept jedoch unzureichend. Hierzu erscheint es notwendig das Konzept in den Anwendungskontext einzubetten. Dies wurde über die Entwicklung eines Aktivitätssystems der nutzerorientierten Methodenanwendung (Activity System of User-Centred Methodology Application (ASUCMA)), basierend auf der Theorie des Aktivitätssystems von Engström [Eng87] erreicht. Dieses System erlaubt es einzelne Komponenten, die die Methodenanwendbarkeit beeinflussen voneinander abzugrenzen, und darüber hinaus die Beziehungen zwischen den Komponenten zu Beschreiben. Im Ergebnis kann durch dieses streng analytische Vorgehen die Anwendbarkeit einer nutzerorientierten Methodik klar in Abhängigkeit von Methodeneigenschaften, Forschungssubjekt (welches in den meisten Fällen ein Entwickler sein wird), Forschungsobjekt (welches in den meisten Fällen ein Nutzer sein wird), vorherrschender und

beachteter Regeln, sowie gesellschaftlicher und unternehmensspezifischer Rahmenbedingungen definiert werden. Erst hierdurch wird die theoretisch fundierte und abstrakte Zuordnung verschiedenster Einflussfaktoren aus dem Wirkungsbereich der ASUCMA auf die Anwendbarkeit nutzerorientierter Methoden möglich und interkulturelle Effekte auf ebendiese erkennbar. Im Rahmen dieser Arbeit ist es so gelungen 22 konkrete und bekannte Effekte kulturbedingter interindividueller Unterschiede verschiedenen Komponenten der Anwendung nutzerorientierter Produktentwicklungsmethoden zuzuordnen und so die theoretische Grundlage für die Weiterentwicklung der interkulturellen Methodenanwendung zu legen.

Die essentielle und theoretisch begründete Voraussetzung zur Verbesserung der interkulturellen Anwendbarkeit nutzerorientierter Methoden ist die Anpassung abstrakter Methodeneigenschaften an den situativen Kontext der Methodenanwendung. Ganz im Sinne der Internationalisierung und Lokalisierung in der Produktentwicklung wurde im Rahmen dieser Arbeit ein Ansatz zur Lokalisierung und somit zur situativen Anpassung nutzerorientierter Produktentwicklungsmethoden entwickelt. Analog zur Trennung abstrakter Produkteigenschaften von bestimmten, kulturspezifischen Produktbestandteilen bei der Produktinternationalisierung, baut der Ansatz in einem ersten Schritt auf der Ablösung abstrakter Methodeneigenschaften von spezifischen Entwicklungsmethoden auf. Die auf dieser Grundlage entwickelte Taxonomie abstrakter Methodeneigenschaften muss als Werkzeug zur Kategorisierung bestehender und neu zu entwickelnder nutzerorientierter Entwicklungsmethoden verstanden werden. Diese Kategorisierung wiederum ermöglicht die Entwicklung generischer Werkzeugboxen als Grundlage der situationsspezifischen Methodenauswahl, bzw. –anpassung. Die methodische Anpassung mit dem Ziel der Optimierung der situativen Anwendung erfolgt im zweiten Schritt – der Methodenlokalisierung.

Auf dem Konzept der Bewertung der Methodenanwendbarkeit aufbauend, und um die grundlegenden Gedanken Hackers Handlungsregulationstheorie [Hac05] ergänzt, wurde im Rahmen dieser Arbeit eine Methodik zur Lokalisierung nutzerorientierter Produktentwicklungsmethoden entwickelt, welche folgende Abbildung zusammenfasst. Die Anwendbarkeit einer Methode wird demnach über die bereits skizzierten Mechanismen über das Spannungsfeld zwischen Subjekt (dem Methodenanwender), Methodeneigenschaft und Objekt (z.B. dem Nutzer) definiert. Die Lokalisierung hat nun zum Ziel abstrakte Methodeneigenschaften derart an die Voraussetzungen des Objektes anzupassen, dass die Anwendbarkeit insgesamt maximiert wird. Hierzu benötigt das Subjekt zunächst Kenntnis über behavioristisch, emotionale, kognitive und motivatorische Voraussetzungen des Objekts. Prinzipiell steht dem Subjekt hierzu ein direkter und ein indirekter Analyseansatz zur Verfügung. Je nach Anwendungssituation haben beide Ansätze ihre Vor- und Nachteile. Anzuwendende Entwicklungsmethoden sind dann, auf Basis ihres abstrakten charakteristischen Profils, so zu wählen und/oder zu gestalten, dass sie, optimal auf diese Bedingen angepasst und auf das Motiv der nutzerorientierten Entwicklungsaktivität ausgerichtet sind, was die Effizienz und Effektivität der Ergebnisgenerierung erhöht.

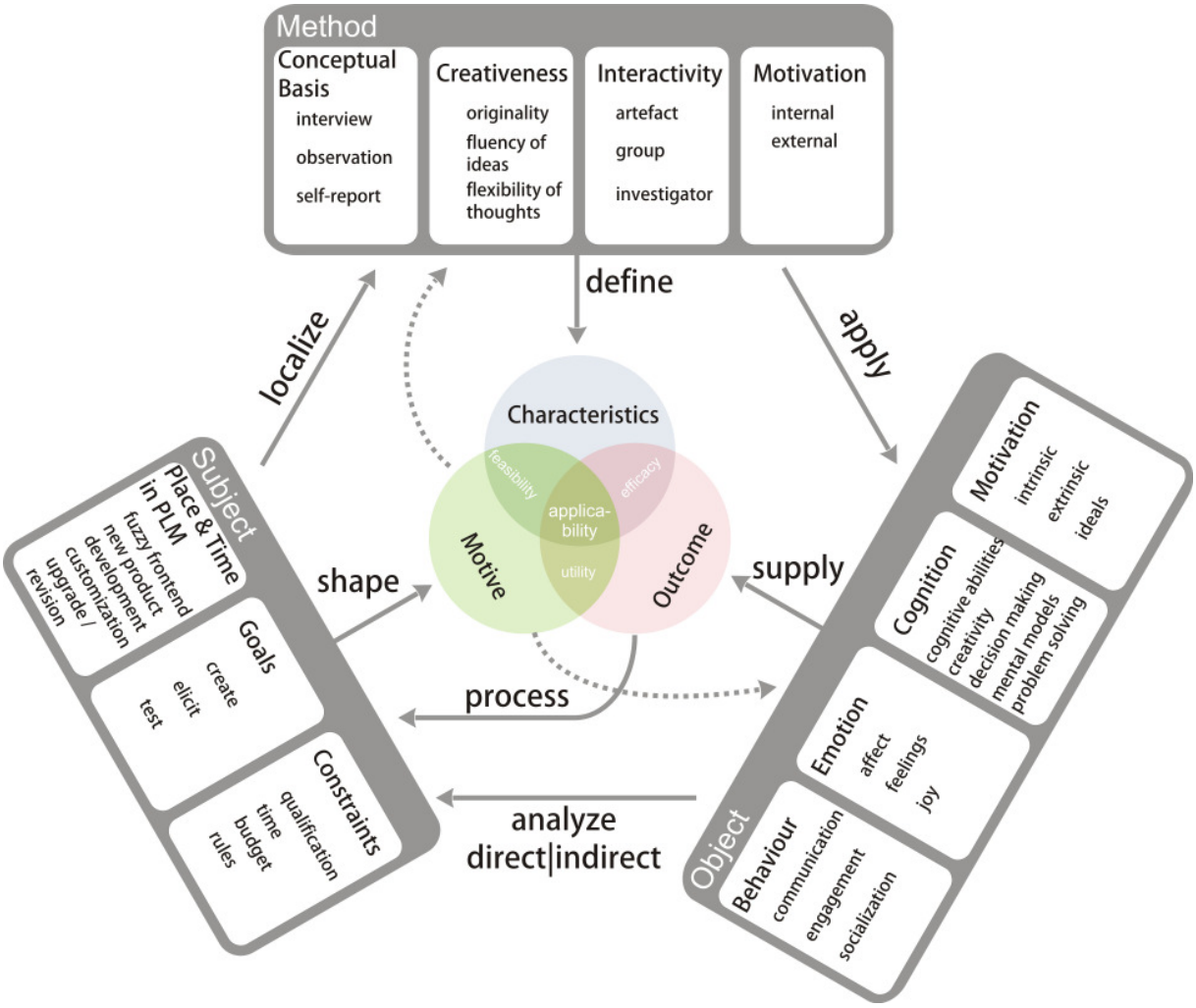


Figure 0.1: Model of Method Localization

Um die Transparenz und Anwendbarkeit des Ansatzes der Methodenlokalisierung zu erhöhen wurde weiterhin im Rahmen dieser Arbeit ein Prozess zur Methodenlokalisierung entwickelt. Ausgehend von dem grundlegenden Motiv der nutzerorientierten Entwicklungsaktivität müssen demnach, unter Beachtung der Randbedingungen des Entwicklungsprozesses, entsprechende Ziele der jeweiligen Methodenanwendung zunächst klar definiert werden, um hierauf aufbauend notwendige Aktionen klar zu spezifizieren und entsprechende Untersuchungsobjekte auszuwählen. Die sich hieraus ergebenden Ansprüche an Methodeneigenschaften und zu berücksichtigenden Charakteristika des Objektes bilden dann die Grundlage der Methodenlokalisierung.

Abschließend wurde der Versuch unternommen das Modell der Methodenlokalisierung und dessen abstrakte theoretische Grundlagen in einer umfangreichen empirischen Studie zu verifizieren. Im Rahmen dieser Studie wurde die Anwendbarkeit von sechs Nutzeranalysemethoden mit stark unterschiedlichen Eigenschaftsstrukturen in China, Korea und Deutschland mit insgesamt 248 Teilnehmern verglichen. Das Studienergebnis belegt klar die grundsätzliche und theoretisch belegte Hauptthese dieser Arbeit, nämlich dass die Methodenanwendbarkeit mit der Methodenanpassung an den interkulturellen Anwendungskontext steigt und fällt. Durch die indirekte Profilierung der jeweiligen kulturellen Nutzergruppen konnte ferner gezeigt werden, dass die im Modell der Methodenlokalisierung identifizierten methodenanwendungsbeeinflussenden Objekteigenschaften im

Zusammenhang mit identifizierten abstrakten Methodencharakteristika zumindest grob in der Lage sind die Ursachen hinter der Wirksamkeit unterschiedlicher Analysemethoden in Abhängigkeit des kulturellen Anwendungskontextes zu erklären. Im Umkehrschluss bedeutet dies, dass die in dieser Arbeit identifizierten Einflussfaktoren auf die interkulturelle Methodenanwendung gültige Indikatoren für Anpassungsnotwendigkeit und –potential nutzerorientierter Entwicklungsmethoden darstellen.

Summary

Product development with end-user integration is not an end in itself but a logical necessity due to divergent types of knowledge of the user and the developer of a product. While the user is an expert in regard to the product's usage the developer is an expert in the product's construction and functioning. For the development of high-end products both types of expertises were a prerequisite at all times. The early and continuous user integration as the basic principle of user-centred product development, thus, is not be understood as a new development approach, but as the rediscovery of principles of classic handcraft and their adaptation to requirements of the industrial context with the primary objective of improving product quality and experience. As international competition intensifies and the maintenance of technological leadership as a competitive advantage becomes increasingly difficult and cost-intensive, the efficient and throughout integration of user-centred product principles into existing product development approaches gains importance.

Activities that are the basic ingredient of just any user-centred development approach can be roughly categorized into analysis, design and evaluation activities. Research and practice prove the early integration of real end-users within those activities to add significant and sustainable value to product innovation. Depending on design and product development philosophy applied the user can adopt the role of an informer or of an innovator. The informer can be best understood as a research object which is analyzed by the research subject (e.g. engineer or designer) through the application of different user-centred methodologies with the objective of generating some desired information in more or less active cooperation. The innovator, however, plays a rather proactive role within the development process, whose primary job is to spark new ideas and creativity in the early stages of product development. Each role comes with specific instrumental, methodological and procedural requirements for efficient and effective user integration.

Increasing product complexity, continuous innovation in information and communication technologies, in conjunction with a rising importance of global markets and intensifying competition pose new quality-demands on the development of man-machine interfaces. The instrumental, methodological and procedural impact of globalization tendencies on modern user-centred product development in particular is the primary research focus of the field of cross-cultural user-centred product development. Results of an online-poll conducted among designated cross-cultural product development experts within this research prove methodological and procedural standards of cross-cultural user-centred product development to clearly fall behind classic user-centred state of the art approaches. Particularly a sound theoretical foundation on which methodological and procedural advancements can build on seems to be missing.

This research aims at the further advancement of the methodological foundations of cross-cultural user centred product development approaches based on a stabile and profound theoretical basis. Primary research objects are established user-analysis methodologies, which are mainly based on

Western concepts and theories, and their applicability in disparate cultural contexts of the Far East (China and Korea in particular).

This necessitated the development of an abstract concept for assessing method applicability. Based on activity theory a model was developed that enables the assessment of any user-centred method's applicability based on the motive of method application, the methods characteristics and outcomes generated. In mutual relationship those three components determine method applicability by the feasibility abstract method traits have for pursuing the application motive, by the efficacy of those traits for generating desired outcomes and by the utility generated outcomes have for satisfying the motive of method application. The higher feasibility, efficacy and utility of a methodology the higher is a methodology's applicability. This trivial contemplation enabled the identification of some main factors influencing method applicability and their further deconstruction. For assessing international method applicability this framework seems to be insufficient, as it is lacking contextual considerations. Those were integrated by developing a system of user-centred methodology application (ASUCMA) based on the second generation of activity theory. This framework connects method characteristics, research subject, research object, maintained interaction rules, as well as social and organizational context with each other what in turn enables the assessment of method applicability in context. Utilizing this framework 22 specific and known culturally induced effects of inter-individual differences influencing the applicability of user-centred methodologies could be identified and through this the theoretical foundation for an advancement of cross-cultural method application be laid.

The foundation of this methodological advancement is the adaptation of abstract method characteristics to the situational context of method application. In alignment with internationalization and localization activities within product development processes, a framework for localizing user-centred methodologies was developed within this study. Equivalent to internationalization activities of real product development, in a first stage, the adaptation of user-centred methodologies to local needs necessitates the abstraction of method traits from specific methodologies. Within this research, a taxonomy of abstract method traits was developed that is to be understood as a tool for categorizing methodologies. This categorization in turn enables the development of generic toolboxes as the foundation for situational method-choice or –adaptation. Methodological adaptation with the primary objective of optimizing situational application of a methodology is to be done in a second step – the step of method-localization.

In order to develop a framework for method-localization, the model for assessing method applicability was extended by some generic principles of Hacker's Action Regulation Theory [Hac05]. Figure 0.1 summarizes this framework of method-localization. As defined by the model of method applicability assessment and the ASUCMA, applicability is defined through the interplay of the research subject, the research object and abstract method characteristics. Method-localization aims at the adaptation of those abstract method characteristics to the researched object's requirements that overall method-applicability will be maximized. This necessitates the subject to know about behaviouristic, emotional, cognitive and motivational premises of the object. The subject generally can gain this knowledge through direct and indirect analysis approaches which both come with their very own advantages and disadvantages. Based on the developed internationalized method-trait taxonomy methods are to

choose or to create that best suit the object's premises while maximizing their feasibility for satisfying the motive pursued with that user-centred activity. In order to enhance transparency and applicability of the developed framework for method-localization, finally a process of method-localization was developed.

The model of method localization and its underlying theories and principles were tested within an extensive empirical study in Germany, China and Korea. Within this study the applicability of six distinct user-centred product development methodologies, each with its very own profile of abstract method traits, was tested with 248 participants in total. Results clearly back the basic hypothesis of method-localization, i.e. that the application of a user-centred methodology rises and falls with the alignment of its characteristic traits with the cross-cultural application context. Beyond, applicability-influencing factors identified within this study could be proven to be valid indicators of adaptation-necessities and –potentials of user-centred product development methodologies.

1 Introduction

1.1 Motivation of this study

Over the last decades many of the big companies such as General Motors, Kodak, IBM, Siemens, Mercedes-Benz, etc. have been forced by spectacular failures and cases of mismanagement to forge an entirely new picture of and develop a new attitude towards their clients. Previously most of those larger companies have distributed, not sold, their products following a centralized pattern of organization, planning and distribution. Under the radically changed conditions of the new market dynamics emerging out of global socio-political transformations, they had to enter a process of exploring and virtually discovering the dimensions of client behaviour.

Whereas at the beginning of this process clients were somewhat reduced to the role of mere data providers whereby “elaborate data collection on owner preferences… is fed systematically to development teams for new products” [Wom91], it has, at the present stage, evolved into a new theoretical framework guiding research activities and enforcing the development of new methodologies.

The fact that developers and producers find themselves confronted with a highly complex, at first sight intransparent, even chaotic array of signals coming from clients, partners, competitors and other relevant stakeholders requires a theoretical approach able to transform this unordered relationship between seemingly conflicting forces into a process of meaningful communication and understanding. From this perspective the basic insight should be remembered that the quality of a product (e.g. a shoe) is not only dependant on the competence and expertise of the producer (the shoemaker) but to an equal amount also on the appreciation and judgement of the user.

Moreover, the competences of the producer and the user respectively belong to different spheres of knowledge, which cannot be interchanged. Whereas the producer’s competence may be described as theoretical knowledge and practical experience in guiding his own activities and processing the objective material towards the desired product, the user’s competence consists of self-knowledge or self-experience in relation to the product used. To understand the user’s knowledge about the product consisting of personal experience, the producer is required to establish a communicative relationship with the user and to develop means of integrating the user’s expressions of his experiences into the product to be developed.

Companies compete on the basis of core competences that form competitive advantages some of which are more valuable than others [Pra03a]. The value of a competitive advantage and thus of a core competence is strongly determined by its imitability. In regard to information and communication technology (ICT) and especially consumer products the value of technological leadership is vanishing and/or becomes increasingly expensive and thus inefficient to maintain, as ICT industries of formerly emerging markets mature. Hence, companies are forced to look for alternative competitive

advantages, such as the skill to serve the local users' needs better than others. This trend inescapably gives development approaches towards the user-centred development of products priority on the agenda for future business activities.

For a long time many companies had been forced to expand their activities beyond their traditional home markets into foreign countries with different customs, infrastructures, political-, economical-, as well as educational-systems and in which users are embedded. This trend is one effect of the globalization trends starting in the early 1970s and clearly taking off in the late 1990s as Figure 1.1 below, depicting the foreign trade trends of the German market, clearly shows.

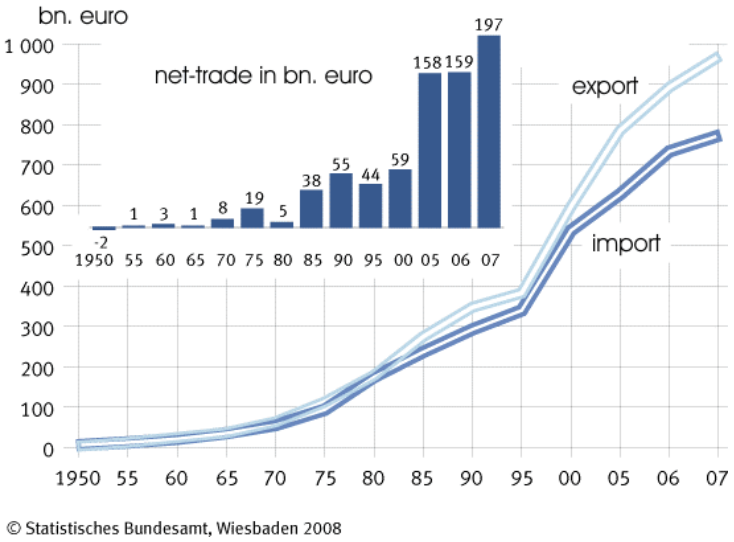


Figure 1.1: Foreign Trade Germany

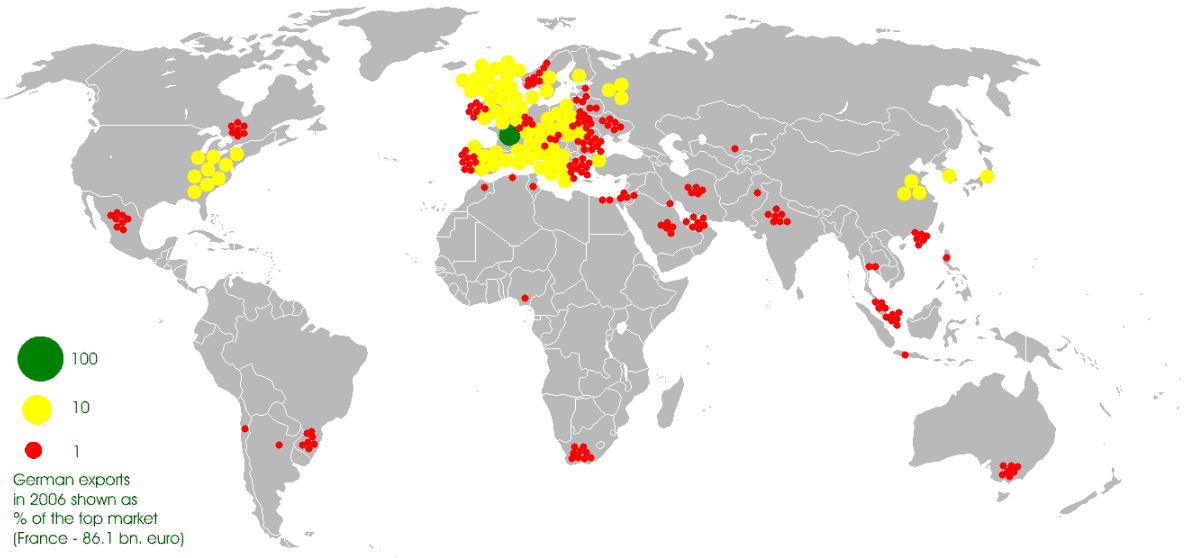


Figure 1.2: Major German Export Markets

So far, major trading partners for goods and services generated by the German economy are developed countries of the western hemisphere (ref. Figure 1.2). In future, however, one can expect emerging and developing markets of the eastern hemisphere to gain significant importance. For the

German economy, for example, Asia was already in 2006 the second largest trade region after Europe with 9.4% of all exports.

Consequently, the scientific and systematic integration of premises of distinct markets across the globe into the product development process gains importance. The nature of culture having a strong impact on almost every aspects of how humans perceive, understand and manipulate their environment started from cognition and emotion [Mis01] [Mar91], over values [Sch06a], personality [All04] [McC02] [Rob05] [Sch07] and motivation [Mon04], to problem-solving and creativity [Ste02] [Ng01], lead to the emergence of cultural issues in the field of HCI already in the 1990s. Since then a lot of research was conducted in order to reveal cultural influences on the development and design of user interfaces and ICT (e.g. [Hof95], [Fer95], [Gal96], [Ayk05]).

In line with that, product development increasingly claims to be user-centred. Consequently, the importance of modelling target-cultures to better understand the needs of users from distant cultures [Hof96] is gaining acceptance and various guidelines and checklists facilitating localization efforts have been developed [Mar03] [Mil05]. Hence, models for cross-cultural product development have been developed and the identification of cross-cultural variables influencing product localization [Rös04] commenced. Additionally practitioners inform the field with the procedural necessities for conducting international user studies [Dra05] in distinct locales.

So far, however, only little attention has been paid to methodological implications of developing user-centred products for markets abroad, what, if seriously conducted, sooner or later in any case necessitates the integration of users from distinct target markets into the development process. Hence, this research is to venture out into methodological effects of the application of product development activities explicitly integrating users of and within distinct markets.

1.2 Terminology

Before starting off with the introduction of international user-centred product development, the use of some terminologies applied within this research shall be highlighted to prevent misunderstandings and to enhance clarity.

Due to the nature of a methodology of being unspecific to particular **products**, the same or similar methodologies are applied for the user-centred development of physical products, software products, or even services. Hence, within this research the term product is to be understood in its broadest sense comprising any outcome of human engineering, design or development effort.

As initial remarks already let presume, this research addresses methodologies underlying a certain philosophy of product development, which is commonly termed and can be best understood as **user-centred**. Within the following chapters different academic and applied approaches and streams embracing this philosophy will be discussed. What all of them have in common is their clear and unambiguous focus on the premises, needs, and wants of prospective individuals utilizing products to be developed. Within this research the term **user-centred product development** will be understood and used as an umbrella term comprising all approaches sharing this philosophy indifferent of type of product to be developed.

Furthermore, this research's focus will be on implications induced by the application of respective approaches in distinct target markets, i.e. markets which are different from the developers' and the corporations' home market. Often enough, those markets are separated by national borders and user-centred product development approaches in this case can be understood as **international** or cross-national approaches. National borders, though, are artificial human constructs, often cutting through other applicable frontiers of human collectives constituting a target market. Hence, national borders often seem to be too broad for clearly defining specific target markets (that is why the term market was introduced in the first place). For user-centred product development being not always and only an interaction of people across different nations, but often across smaller social units sharing other common premises, the term **cross-cultural** is widely applied and accepted for addressing user-centred product development approaches crossing distinct markets. With this meaning the term will be applied here, too.

2 International User-centred Product Development

Within this research user-centred product development shall be addressed from a **system thinking** perspective [Wei01]. System thinking is an approach to problem solving with explicit focus on the overall system including all system parts and their immanent relationships. System thinking, thereby, is not limited to physical systems but can be applied to any human activity system, e.g. social systems, political systems, economical systems, ecological systems, or product development. The basic idea is that the overall system can never be understood by separately analysing system parts, as isolated parts behave quite different than if they interact with other parts. Thus, besides the consideration of characteristic traits of each system part, their interrelations are of ultimate concern. Being a holistic approach pursuing the overall objective of developing products that meet or even exceed the users' expectations not only from pragmatic perspectives, but increasingly in terms of hedonic qualities [Has03], such as aesthetics, pleasure, prestigiousness or self-identification, the introduction of user-centred product development from a holistic systems perspective seems reasonable.

Beyond, most existing systems are **complex systems** [Wik08b] [Wea48] [Sim62], as

- they are nested, i.e. parts of the system can be complex systems themselves,
- they exist in a kind of dynamic equilibrium, i.e. they are open, their boundaries are difficult to determine and usually are fixed by the observer,
- they have a memory, i.e. they change over time and prior states influence the present state,
- they may produce some emergent phenomena, i.e. phenomena that can only be observed on higher level,
- the relationships to other systems as well as among system parts are not linear and contain feedback loops.

Without going deeper into theoretical foundations of system thinking and complex systems, their application for introducing the domain of (international) user-centred product development as a complex system in itself, which is connected to further complex systems, such as users, products and contexts, that all are interrelated with each other, should become clear. Hence, system thinking is exactly what designers or engineers developing a system in alignment with user premises, contextual requirements and technological constraints have to apply [Syd04]. Beyond, this way of introducing the filed was chosen in the hope of facilitating further research to follow up on this preliminary work.

Within the following chapters first the domain of user-centred product development as the superordinate system will be introduced. Then, relevant subsystems, i.e. humans, products, and contexts, will be described, followed by a brief summary of their interrelations. Based on that, activities and approaches commonly applied to handle these systems and their interactions are reviewed primarily from an international perspective. Fundamental theories, as widely applied within this system

then will be critically assessed. Finally, a survey conducted among designated user-centred product development experts about challenges and the status quo of cross-cultural user-centred development endeavours will be summarized.

2.1 The System: (International) User-centred Product Development

Basically, user-centred product development describes a set of activities and processes that are intended to enhance product quality from the user's perspective. Initially, this quality, termed as **usability**, was mainly defined in terms of effectiveness, efficiency and satisfaction of product use in specific context [ISO9241]. This definition of quality, however, is increasingly criticised for its strong bias towards pragmatic issues of product use and its lack of emotional and social issues of experiencing a product [DeA02]. In consequence the field increasingly acknowledges the interaction between humans and products from a broader, holistic perspective [Jor00] which includes pragmatic as well as hedonic product qualities. This perspective on the quality of interaction between humans and products is commonly termed **user experience**. A clear definition and uniform application of this concept, though, is still missing [Law08]. The decision about which dimension of product quality to be of primarily concern for product development is a multidimensional one, influenced by type of product, i.e. consumer or industrial product, by competitors in the market, by know-how, experience and resources and, of course, by prospective customers.

Usability and user-experience, both share the fundamental philosophy of explicitly considering the triad of human, product and context. Activities and processes whose objective is to ensure product quality in terms of usability, thereby, are usually referred to as **usability-engineering** [Nie93], while efforts for integrating the broader aspects of user experience into product development are usually referred to as user- or **human-centred design** [Nor90]. Being complex systems, these domains need to be understood closely interrelated to the domains of system engineering, design, (project-) management, marketing, manufacturing and further sub-systems of an organization. From organizational perspective the flow of information and resources as well as the definition of the partially blurred borders between those systems is of ultimate concern. For the research on hand, however, it seems reasonable to limit the scope of the system user-centred product development to humans, products, contexts, activities and processes (ref. Figure 2.1).

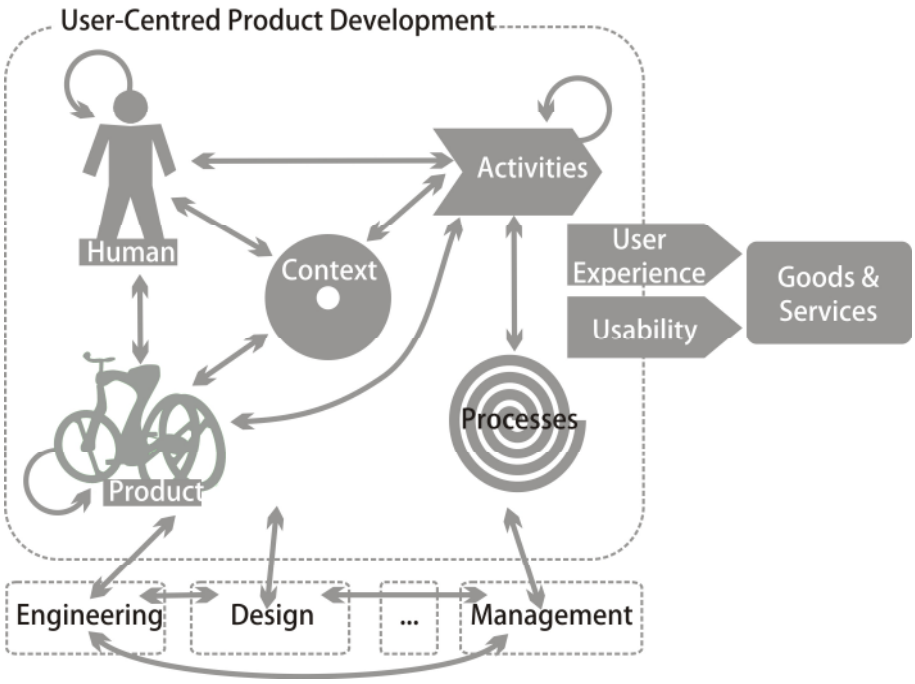


Figure 2.1: User-Centred Product Development – A System Thinking Perspective

The different system parts that in turn comprise further sub-systems will be discussed below. Thereby, and apart from the holistic and interaction-oriented view on the problem-space, the system thinking approach allows to clearly confine sub-systems and furthermore supports the comprehensive introduction of research levels based on emerging phenomena relevant for explaining respective research issues.

2.1.1 Human

One major system of concern for user-centred product development is the user, i.e. the human using the product in context. Generally one can differentiate the human system into psychological and physiological subsystems. The psychological system for example comprises such subsystems as cognition, emotion, or motivation, and the physiological one consists of various systems of the human body, e.g. the nervous, the musculoskeletal or the immune system.[1] Obviously not all of those systems, which all are complex systems in themselves, are relevant for user-centred product development. Hence, it seems reasonable for this research to limit this introduction to some relevant systems and emerging phenomena.

The most obvious **physiological systems** of humans are of anatomic nature. Modern anthropometry and biometrics are scientific disciplines of research that inform the development of user-centred products from the ergonomic perspective. While for the development of mere graphical user interfaces (GUIs) these classic ergonomic principles often can be neglected compared to the cognitive ergonomic perspective [Ben01], for the development of complete technical systems or physical products these can be of utmost importance. Hence, as the interaction between humans and products moves towards multimodality and includes an ever broader range of interaction styles, e.g. gestures, touch and voice, across various display- and control-systems in different sizes, plain ergonomics as

[1] A vivid image of the human physical system is depicted in Appendix A.

well as the whole human perceptual system, i.e. seeing, hearing, touching, and smelling, (re-)gain importance in product development. Even though the perceptual rules are the same for all human beings their impact, e.g. actual perception of colours, shapes, textures, sounds, smells, etc., differs across individuals and time significantly [Fis04]. These (inter-)individual differences strongly influence user-requirements to be met by user-centred products.

Psychological systems relevant to discuss for the research on hand are mainly related to the cognitive and emotional system. From psychological perspective the **cognitive system** is utilized for the description and explanation of human information processing. Initially mainly understood as processes happening inside the scull, human cognition is increasingly acknowledged to utilize structures and artefacts of the environment to facilitate cognitive processes [Gig99], [Hol00], [Hut01]. For product development from the cross-cultural perspective, theories of distributed cognition [Hut01], simple heuristics [Gig99], or bounded rationality [Rap01], that all have the common denominator of understanding human cognition always and only in regard to context, are of high relevance.

Mental models [Vee03] are closely related to the human cognitive system. These can be defined as dynamic cognitive constructs continuously rebuild, adapted and extended to describe, explain and predict the environment, based on recognized (conscious or subconscious) information, previous and new knowledge or symbolic structures [Dut94], [Heu02], [Sen06]. Mental models can be seen as the internal subjective representation of perceived environmental information and thus are to be understood in close relation to the perceptual system. Hence, they are of high value for understanding assumptions, generalizations, or pictures that form a person's reality and influence how humans see the world and take action.

Obviously, **knowledge** thereby plays an essential role as it constraints the development of new mental models and is the result of mental model building at the same time. Knowledge, though, is not uniformly defined and its definition is the object of continuous debate among philosophers in the filed of epistemology. The most original definition of knowledge is Plato's who understood knowledge as justified true beliefs [PlaBC]. Its relation to data and information is however commonly agreed upon. Often the concept of knowledge is introduced through a semantic pyramid which is hierarchically organized with data at the bottom and instrumental understanding at the top; right above knowledge. Thereby a higher hierarchical level represents greater contextual richness [Ber03]. In regard to user-centred product development the categorization of knowledge into tacit knowledge, which is implicit in the mind of people and difficult to communicate or transform into explicit form – usually gained through experiences – and explicit knowledge, that can be easily expressed and is gained through education and training, is certainly applicable. The impact on user-analysis methodologies is obvious. Furthermore, the connection between education and cognitive abilities becomes clear [Rog81], [Sch01].

Knowledge, mental models and cognitive processes per se are connected to problem solving and decision-making. A large body of literature available discusses decision-making under certainty as well as uncertainty (e.g. [Arr84], [Kee02], [Wan02]). Depending on certainty-level, different cognitive processes seem to be working with different efficiencies in regard to problem-solving. Under complete certainty, i.e. all possible solutions and their required efforts are known, decision-making is reduced to

a choice problem and optimizing strategies are, at least theoretically, applied. In reality, however, these requirements are hardly met; decision making under uncertainty, thus, is the rule. Therefore, the human brute force is not enough to follow optimizing strategies and usually heuristics are applied [Kle01]. Among others and without being further described here the most abundant heuristics comprise representativeness, availability and anchoring [Kah00], [Gig01b]. For the research on hand it is important to highlight these heuristics to be strongly connected to emotions, values, and environmental cues, such as cultural ones, in terms of efficiency and reliability [Gig01a].

The definitions of mental models and knowledge already imply a connection to human **beliefs**, as "knowledge can be thought of as facts, heuristics, and believes" [Ber03]. Beliefs can be understood as possessions humans hold about certain truths they are reluctant to give up for various reasons (for explanation ref. [Abe89], [Kar00]). They guide cognitive processes in terms of organized conceptual frameworks and together with **values**, beliefs guide behaviour [Kag06]. Schwartz [Sch06a] defines values as cultural ideals that shape and justify beliefs, actions and goals (of individuals and groups). They are stable and incompatibility with them results in tension, criticism and pressure to change. Value orientations change slowly and gradually over time. Thus, starting from the perceptual and cognitive basic premises of and inside the individual, with the human value system a level of psychological constructs is being reached that spans over a group of individuals and relates to more complex social and environmental systems [Sch92], [Sch03].

Another psychological system affecting behaviour [Bag00] and decision making are **emotions** [Luc00]. Bagozzi et al. [Bag99] define four constituting components of an emotion, namely physiological change, cognitive appraisal, subjective feeling and behavioural reaction. Emotional behaviour can be differentiated into unpremeditated, expressive behaviour (e.g. facial and vocal expressions) and instrumental behaviour motivated by emotions (e.g. impulsive purchases). The latter one can be further split up into behavioural effects of currently experienced and effects of anticipated emotions. Both, expressive and instrumental, behaviour dimensions are relevant for user-centred product development. The prior as a mean for measuring emotional perceptions of products by users [Ros98] and the latter in connection to hedonic product qualities to be incorporated into product development (ref. chapter 2.1.2) [Cre02]. Similar to the perceptual system, basic rules of the emotional system are the same for all humans, their impact, however, strongly varies across individuals. Hence, first research indicates that control systems related to emotion are influenced by various external factors; not at last by culture [Tsa06].

The intense interaction among all these systems and others not mentioned here constitute the complex system human and inter-individual differences. To serve these differences is the fundamental justification of user-centred product development.

2.1.2 Product

First of all, products[2] are solutions to a certain problem as defined by the user [Hor99]. How good products serve the purpose of solving the users' problems depends on the product's **qualities**. Consequently, these qualities can only be meaningful described from the users' perspective. Product

[2] Despite the notion 'product' used within this research, most concepts introduced here apply to services, too.

qualities increasingly are divided into pragmatic and hedonic ones [Jor00], [Cre02] (ref. Figure 2.2). **Pragmatic** product qualities relate to the product as a tool for manipulation. Hence, the product needs to comprise a certain scope of functionality as required to solve the user's problem and ways to access these functionalities. The scope of functionality itself refers to product utility and the way they can be accessed to product usability. **Hedonic** product qualities relate to the product as an artefact with personal, social or cognitive meaning and can be differentiated into identification, stimulation and evocation qualities. Whereas, hedonic identification qualities refer to the product as a mean of self-representation, stimulation qualities relate to new impressions, opportunities or insights the product provides and evocation qualities to memories the product is able to provoke [Has03].

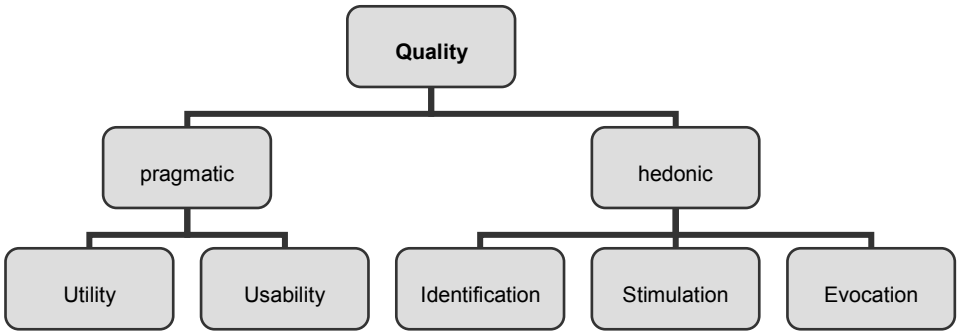


Figure 2.2: Product Quality Dimensions

In order to achieve respective qualities, requirements as defined by the user and the respective problem are to be met. Based on these user **requirements**, requirements of the product can be derived. Being complex systems that are composed of other complex systems, i.e. product parts, requirements defined on the general product level are to be further specified for each sub-system [CMM06].

In consequence, user requirements can be allocated to features of the product that then in turn are to achieve the required product quality. These features can be realized in terms of functions, designs, or a combination of both commonly referred to as unique selling propositions (USP). According to the systemic approach all these product features must be understood as complex systems in themselves. The functional system, for example, can comprise complex mechanical, hydraulic or electrical systems as well as complex chassis in which all these are embedded. The design system can comprise systems of colours, shapes or materials; all of them in alignment with systematic rules to ensure a unique but consistent look and feel called design language.

2.1.3 Context

Besides humans and products, the context is the third essential system to be considered for user-centred product development. Thereby, technical, organizational, political, social and cultural sub-systems are connected to the system user-centred product development.

The **technical context** is set by an array of products and artefacts influencing another product's application. In alignment with the systems perspective a product cannot be seen as a closed entity. Products are exchanging more and more information, energy and physical objects with each other. While the latter kind of exchange can primarily be observed in industrial context, the prior two already occur if an USB stick is connected to a computer. Thus, the system technical context sets important

constraints regarding necessary interfaces of the product if it is to function not as an isolated entity. Hence, at the level of product components physical dimensions as well as mounting and bearing requirements are set by the technical system through characteristics of other product components and chassis. Considering increasing product complexity and ubiquitous computing the complex system technical context continuously is gaining importance.

Many products are used in **organizational context**. This system sets a considerable amount of constraints in regard to user-centred product development and thus cannot be left out here. The organizational system comprises organizational structure, which defines organizational units, responsibilities, authorities and relations between those units [Ble04] as well as (business) process organization, which organizes a set of actions in order to achieve a superordinate goal [Rum95]. The organizational structure sets constraints regarding prospective users and their qualifications. Logistics and the technical system are strongly determined by the business process organization.

Another complex system strongly determining the context of product use is the **political system**. Even though, the major stake of this system's impact on user-centred product development is indirect by constraining contextual systems closer to the product, the political system directly affects product development by setting legal and normative frameworks. Besides legal liabilities, the political system, or systems close to that, influences product development by concretizing normative frameworks in terms of norms and security regulations. Hence, the political system indirectly influences various sub-systems of the context of use, e.g. the social system and with it educational and cultural systems, as well as organizational systems and finally technical systems in terms of infrastructure. In consequence this system's impact is not to be underestimated.

The **social system** is constituted by a multitude of complex sub-systems on various levels with often only very loose boundaries. Unfortunately, this system is only rarely defined or conceptualized [Abe00]. In its broader sense, however, the social system comprises entities, groups and organizations and enduring patterns of behaviour among those. For the research on hand, particularly one sub-system, i.e. the cultural system, seems necessary to be introduced.

Even though the **cultural system** is difficult to grasp and is defined in various versions of which each can be justified by its domain of application [Kro52] there seems to be consensus about what makes up this system. Culture is constituted of ideas, values, beliefs, behavioural strategies, perceptual models and organizational structures. Culture is information that is inside individual brains and is transmitted among individuals through imitation, observation, interaction, discussion and/or teaching. Institutions, social structure or technology are not culture but are inextricably linked to it and represent the externalization of this internal construct [Rap01]. Thus culture can be found on various levels of of the social system. However, the higher this construct is applied, i.e. the more people are involved, the more abstract its definition needs to be. In consequence it will become less powerful for determining behavioural, cognitive or emotional traits [Rat03], [Fis02], what in turn affects its applicability in regard to the complex system user-centred product development. Implications of this effect will be discussed in chapter 2.5.3.

2.2 Interrelations of System-Components

All complex systems introduced above, i.e. humans, products and contexts, are open systems. That is, information, energy and/or physical objects are constantly exchanged among them as well as with other complex systems. This chapter will discuss interrelations among introduced complex systems that are relevant for the domain of user-centred product development.

2.2.1 Human-Product

Humans and products exchange information (e.g. GUI), energy (e.g. heating blanket) and physical objects (e.g. credit card slot at an ATM) via the user interface (UI). Thereby, the user is the human who utilizes the product as a tool for achieving a certain goal in regard to another object or subject [Ban92], [Kap01]. This engagement is commonly describes as an activity [Nar01]. It shall be pointed out, that this activity-theoretical understanding does not reduce the product to a tool from a pragmatic perspective alone but comprises hedonic principles at the same time, as the quality of the product remains to be defined by the user and his/her goals, which in turn comprise pragmatic as well as hedonic ones.

The **user interface** comprises all input and output devices of the product that can be utilized by the user to send or receive information, energy or physical objects to or from the product. These devices in general comprise software as well as hardware parts, and can be described by various models. Figure 2.3 and Figure 2.4 provide two abstract models of any UI from an engineering as well as an UI-designing perspective. Each model comprises both, software as well as hardware components. The UI-design model starts off from fundamental communication concepts of humans, i.e. metaphors, to be applied to human product interaction and addresses system structure, organization and function already on second level in terms of internal mental models (ref. chapter 2.1.1). Then navigational elements are considered that are necessary to enable motion through respective mental models. This is the first layer directly addressing the system itself and not human representations of that. From the perspective of UI-design navigation necessitates interaction, which comprises input and output technologies. Finally, all perceptual attributes that include the interfaces appearance are considered.

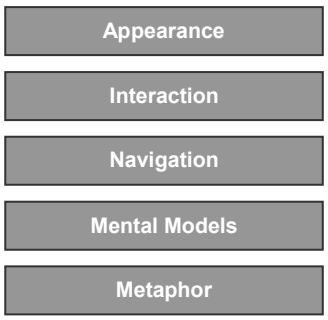


Figure 2.3: Abstract User-Interface Model – UI-Designer Perspective (ref. [Mar05])

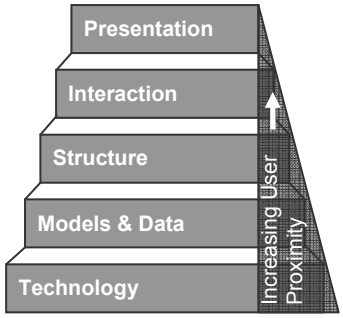


Figure 2.4: Abstract User-Interface Model – Engineering Perspective (ref. [Rö02])

In contrast, the engineering model starts off from the technological perspective. Proximity to the user of respective system parts increases from bottom to top of Figure 2.4. Beyond, subordinate system parts set constraints regarding superordinate ones. The basic system layer is the technology applied or available which sets the restrictions of the whole system. Embedded in this is the next layer, which is the data and models applied; namely these are the informatics behind the system. The third layer is the structure of the UI. This is the first layer which is directly affected by the users' requirements. The next layer, interaction design, is directly influenced by the structure of the system and thus embedded in the latter. The core of the UI is the presentation of information, representing the for the user visible design.

Which model is the better or more comprehensive one cannot be said without considering the type of product to be developed. For modelling mere GUIs the UI-design perspective offers a more straight-forward way of integrating abstract mental models and metaphors. This model, however, is clearly limited if the task is to design complete input or output devices from the scratch, as the system component interaction by and large comprises standard I/O-elements, such as joysticks, speakers or displays. Particularly within the industrial environment the application of these standard elements is very limited and often not feasible. From this perspective, the engineering perspective clearly holds some advantages.

2.2.2 Product-Context

The product, understood as a tool from activity theoretical perspective, not only exchanges information, energy and physical objects with the user, but also with the respective object or subject at which the activity is aimed. Usually this object or subject can be located in the user's and the product's context of use. Different contextual perspectives were introduced in chapter 2.1.3. Particularly the technical as well as the organizational context are closely interrelated with the product (ref.Figure 2.5). Both contexts must be understood from a constitutive as well as a disturbing perspective.

From a **constitutive perspective** the organizational context, particularly process organization, strongly determines work flow and technical layout by assigning roles and tasks to respective agents,

i.e. products and/or humans.[3] Basically this is an organization of activities in regard to a superordinate goal. As a comprehensive organization is unlikely to be achieved without consideration of premises of the different agents the relationship between organizational context, product and technical context must be understood as a reciprocal one. That is, technical and organizational context influence each other (C_{to} and C_{ot}) and both influence and are influenced by the product which is applied within these contexts (C_{pt} and C_{tp}; C_{po} and C_{op}). For the system of user-centred product development these influences are to be considered in terms of requirements the product to be developed has to meet.

At the same time, features of established organizational and technical **contexts constrain** the application of products through space, noise, dirt, humidity, vibration, light, heat and other physical variables. These influences represent disturbances (D_t and D_o) of product application that are to be considered within product development endeavours.

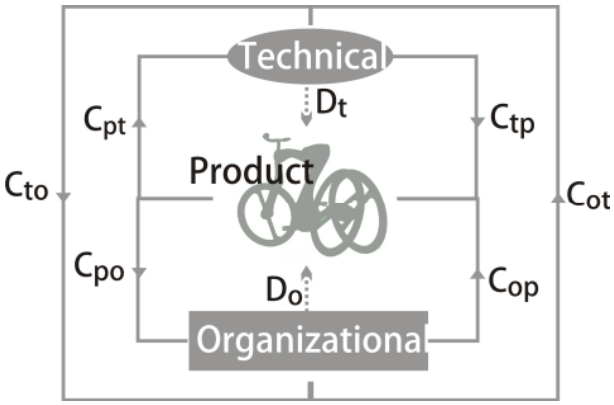


Figure 2.5: Product in Technical and Organizational Context

In 1990 Jonathan Grudin [Gru90] introduced a framework in which he addressed the further development of the field of user-centred product development based on an historical review of UI-contexts in combination with principal users, interface specialist disciplines and applicable research methodologies. At that time computers were workstations, primarily applied in professional context and consequently the highest level within this framework was the “interface as work setting”. Now, 18 years later, computers and other interactive products are ingrained in social and private life. Obviously this perspective goes beyond the mere division of labour and must be seen in close relation to the social and cultural context. These contexts do not replace organization and technical considerations made above as those are not limited to the professional or industrial environment, but can be applied to private contexts, e.g. organizations of living rooms and kitchens, too. They rather extend the previous perspective in terms of additional sources for eliciting product requirements that strongly influence product acceptance and feasibility of public use in terms of colours, shapes, metaphors, size, smells, etc. Consequently, Kamppuri et al. [Kam06] argue for the extension of Grudin’s five-level framework for the development of interface design with a sixth level of the “**interface as culture**”. They admit, however, that research at this level is still in its infancy.

[3] An agent is a representative who acts on behalf of other persons or organizations (ref. [Wik08a], [Mil08]). The agent pursues either own or assumed objectives or motives. Within this research agent and subject will be used synonymously.

2.2.3 Context-Human

Context strongly determines how humans think, act and feel. Since the introduction of **situated action** to user-centred product development by Suchman [Suc87] at the latest, it seems widely accepted that human action can only be understood, explained and predicted in combination with the context in which it occurs.

Technical and organizational contexts by and large determine work-flows and thus set constraints as well as requirements in regard to human action. These can be of physical or organizational nature and are in any case highly relevant for user-centred product development. Particularly the organizational context already implies traits of the social context.

For analysing the interrelations between social context and humans it seems reasonable to differentiate between a dynamic and a static perspective. Within this research, the **dynamic perspective** shall comprise effects of reciprocal influences of humans and contexts over time. Thus, enculturation, issues related to developmental psychology or society and culture forming are effects that can only be understood from a dynamic perspective. The **static perspective**, though, enables the explanation of interrelations that, compared to the dynamic perspective, only occur at one point in time. This includes various cognitive and emotional effects as well as actual behaviour. Both perspectives must be understood as inextrinsically tied to each other as the dynamic perspective significantly constraints possible static occurrences.

The dynamic perspective can be seen in accordance with a socio-cultural approach. According to socio-cultural theory, which draws heavily on activity theory and the work of Vygotsky [Vyg96], (child) development always occurs in social context through the interaction of people and objects in the environment. Thus, cultural and social context merge with each other and together influence human behaviour and thought. The process by which an individual is being taught basic social structures, values and norms is known as enculturation [Wik08c]. This relates to formal education as well as learning by experience, peers and family. This influence, however, is not unidirectional as humans constantly shape values, norms and the social system per se (ref. Figure 2.6).

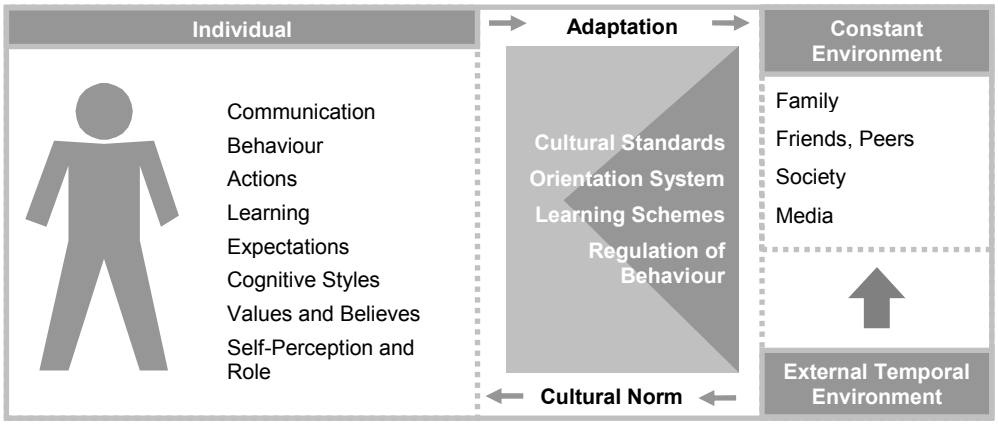


Figure 2.6: Enculturation (ref. [Rös02])

The static perspective relates to how humans utilize structures of the environment as learned through enculturation processes in order to off-load cognitive load and facilitate decision-making wherever

possible. This view draws heavily on theories of social and distributed cognition [Tha05] as well as bounded rationality and heuristics-based decision-making [Gig01b]. These theoretical approaches all can be reduced to one common denominator as they are built around the fact that humans utilize patterns, structures and rules of the environment they are familiar with to support cognitive processes. Thereby, social and distributed cognition suggest that humans off-load cognitive load where possible and actively structure their (work-)environment in a way that supports memory retrieval and automated cognitive processes. Bounded rationality and heuristic-based decision making are based on the principle that real-world problems humans are facing are too complex and dynamic for the human brute-force in order to pursue optimization strategies and algorithms for solving them. In consequence, humans rely on known structures and cues provided by their environment to successfully and efficiently apply heuristics that facilitate decision making and problem solving.

Obviously the static perspective is closely related to user-centred product development, as the applicability of metaphors, navigation and system structures are directly influenced by respective effects. Despite not being directly related to user-centred product development, the dynamic perspective is highly relevant to the domain, as this perspective seems promising in informing user-centred product development with fundamental theoretical foundations [Kuu01].

2.3 Activities and Processes within this System

In order to align requirements of all three sub-systems as introduced above with each other and with the primary objective of developing products that excel through high usability and good user-experience, different user-centred activities are to be applied by respective agents. These activities are organized in processes to enable/increase effectiveness and efficiency of user-centred product development. In practice different process models are applied by different people. However, what all have in common is that they build on early and continuous user-integration and are organized in an iterative process [ISO13407], [UPAnn]. Hence, the following chapters discuss activities relevant to all user-centred product development approaches and those activities' organization in terms of processes.

2.3.1 Processes

Various process models are available. The most widely spread standard models are the waterfall and the spiral model as well as combinations of both [Jay06]. Regardless of specific basic process model applied, most product development approaches by and large share the same process phases which are run through consecutively [Pre99]. **Product Lifecycle Management** (PLM) supports the holistic understanding of these phases covering all process phases from the initial product idea to its development, manufacturing and service and finally its disposal [Arn05], [Sta05]. PLM allows the reduction of any development process into four commonly shared development phases with respective phase-specific activities and sub-process. These phases are:

- **Conceive:** The general product idea is being developed and sketched. Follow-up stages of the development process are planned and initiated.

- **Design:** The product is specified, developed and tested. The product's manufacturing is being prepared.
- **Realize:** The product is being manufactured. All necessary actions and preparations of goods and services are taken. The product is being sold.
- **Service:** The product is in use. During that time it will be maintained, extended and/or updated. Finally it will be recycled and disposed.

Each stage must be understood as a component of the complex system PLM with various sub-systems organizing specific activities that exchange mainly information and physical objects. Therefore, all systems are closely interrelated, build up on each other and contain feedback-loops. Beyond, each sub-system is organized by a separate micro-process or -structure.

Activities of the sub-system user-centred product development to date mainly are integrated within the first two phases, i.e. conceive and design, of the PLM. **ISO 13407** [ISO13407] defines the probably most generic process model for organizing respective activities (ref. Figure 2.7). Based on an iterative model, a revolving procedure is suggested, starting from the analysis of the utilisation-context, followed by the specification of user-requirements and the initial design, which is to be reviewed and evaluated.

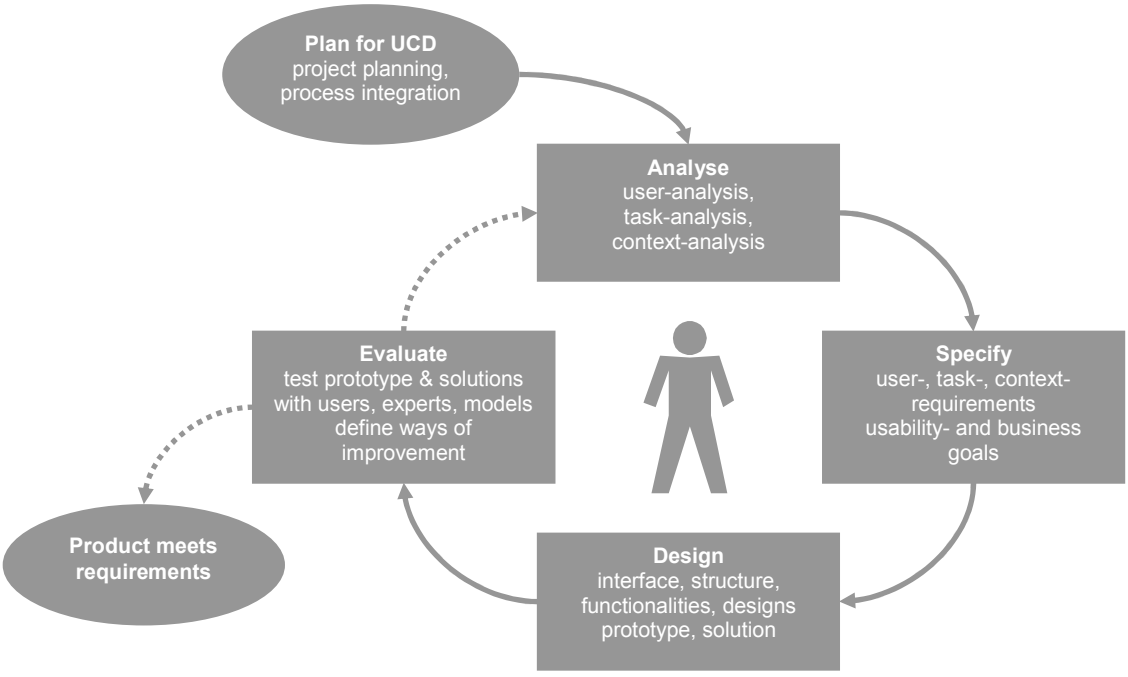


Figure 2.7: ISO 13407 Human-Centred Design

Various other process models embracing the basic principles of user-centred design are available, e.g. Mayhew's Usability Engineering Lifecycle [May99], the Usability Maturity Model [Ear99], the Capability Maturity Model Integration [CMM06] or lately the Incremental Commitment Model [Com07]. Even though all models differ in their complexity and application for different domains [Böd07], they all represent holistic approaches towards user-centred product development and thus by and large can be assigned to basic phases of PLM.

2.3.2 Activities

For user-centred product development, particularly activities within the first two phases of the PLM have to be considered. These activities comprise analysis, design and evaluation and will be introduced within the following chapters.

2.3.2.1 Analysis

High product quality in terms of usability and user experience can only be achieved if product features are aligned with requirements of the user and the context of use. The definition of respective requirements necessitates the in-depth understanding of users, that is their physical, cognitive and social premises, goals and tasks, on the one hand and their knowledge about constraints and requirements of the technical, organizational, and social context of product use on the other hand. The primary objective of analysis activities is to provide this in-depth understanding and knowledge to inform follow-up activities, such as design and evaluation. In accordance to the system thinking perspective, this overall objective and activity can be split up into sub-objectives with respective activities.

Table 2.1: Sub-Objectives of Analysis Activities

Objective	Activities	Literature (e.g.)
profile the user	apply user analysis methodologies; e.g. interviews and observations, to reveal cognitive, emotional and physiological premises of the individual	[Cou05], [Jor00],
profile the context of use	apply context analysis methodologies, e.g. contextual inquiry or ethnography, to reveal functional, social and organizational premises of the context of use	[Bey98], [Hol03], [Hol05]
profile user-tasks	apply task analysis methodologies, e.g. workflow analysis, to reveal goals of the user with respective tasks for achieving these goals	[Red03], [Dia04]

Findings of these activities can be documented by various models. Flow models can be utilized to map coordination and communication requirements, sequence models are applicable for documenting steps required to accomplish a task, artefact models are useful to map mental models of real world artefacts, cultural models can be applied to define effects of social entities, cultures and policies and physical models enable the comprehensive documentation of the technical environment of product use [Hol03]. Beyond, process models, knowledge models and control models enable modelling human cognition as the basis for further development activities [Yos03].

Principal agents for conducting respective activities are user-experience analysts, which can be psychologists, engineers, anthropologists, or designers by training.

2.3.2.2 Design

Results of analysis activities, i.e. requirements as defined by the user, the context and the task, are further processed by design activities. These include the development of early sketches, concepts, prototypes and even whole platforms. Primary objective of this activity is the translation of gathered requirements into specific product features in terms of functionalities, designs and unique selling propositions. Thereby, basic design patterns, principles and guidelines [Mil05], [Hal03], [ISO9241], [Lin04] are applied and real end-users can be engaged [Sch93]. Design is a multidimensional activity that integrates a pragmatic-functional usability perspective with a hedonic-experience view.

Principal agents for design activities are designers, engineers and user-experience specialists.

2.3.2.3 Evaluation

Sketches and prototypes are further processed by evaluation activities. Primary objective thereby is to measure the gap between design results and respective requirements in order to derive ways for improvement from that. This activity can comprise sub-activities involving users [Dum03], abstract models or guidelines [Rit02], [Kie03] as well as experts. Increasingly evaluation activities accompany all other development activities. The continuous and immediate evaluation and verification of findings of each process phase, thus, enhances process quality and efficiency [Rös06].

Principal agents for executing respective activities are usability and user-experience specialists.

2.4 The paradigm of early user integration in user-centred product development

The basics of the system user-centred product development being laid, the focus of the following chapters will be on the early stage of development endeavours and different roles users' are to play at that. Therefore, first objectives pursued with early user integration will be discussed. Then different philosophies of user integration will be highlighted and implications derived.

2.4.1 Objectives of early user integration

In previous chapters the general objective of user-centred product development endeavours was introduced to be the development of products that excel through usability and user-experience. Furthermore, was shown that these objectives can only be achieved by aligning requirements and needs of the triad human, product and context with each other. The common denominator of various user-centred development approaches applied in doing so is the early and continuous integration of prospective end-users (ref. chapter 2.3.1).

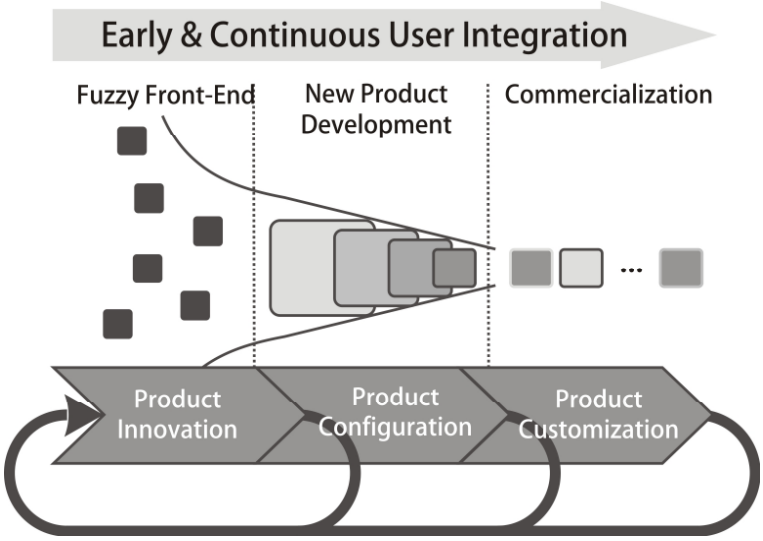


Figure 2.8: Early & Continuous User Integration in User-Centred Product Development (based on [Koe02])

From an **innovation process** perspective [Koe02] user-centred product development approaches can be differentiated into three phases which can be primarily assigned to the first three phases of the PLM, i.e. conceive, design and realize, and which cover the complete user-centred design process (ref. Figure 2.8). These phases are commonly referred to as the fuzzy front-end, new product development and commercialization [Koe01]. The fuzzy front-end represents the comparatively loosely structured experimental process in which the foundations of product innovation are laid. At the beginning of this stage outcome, processes and timeframe are still uncertain. These concretize, however, over time until they merge into the more organized and structured new product development phase. There, more or less established process models are applied, timelines are fixed and business as well as user goals are integrated into the product to be developed. Consequently, those goals in combination with constraints imposed by context, user and technology, determine product configuration. Traditionally, this is the stage where user-centred design activities take place. After product configurations are specified and the new product development phase is completed the product is ready for production. Thereby, specific user needs are increasingly considered through product customization.

Throughout all phases, research proves user involvement to add significant value [Sha85], [Mai85], [Gem92]. The user, though, can play two different roles. First, the one of an **inspirer** who is to increase product innovation and to spark new ideas together with the development team as s/he naturally applies different mental models and perspectives onto the problem-space than developers. Second, the user can act as a research object or **informer** whose needs, premises and requirements determined by his/her abilities, goals, and tasks are to be revealed by the research team in order to inform the further development process and to increase the feasibility of generated solutions. Obviously the prior role is more relevant for the fuzzy front-end of the innovation process, while the latter one is most appropriate for the phase of new product development [Wol06]. Depending on the type of product, the second role can be applicable for the phase of commercialization, too. Particularly in industrial context user- and customer-requirements often are such specific that off-the-shelf solutions – even customized ones – are not feasible and that the scope of ‘customization’ can be understood rather as an extension of the new product development process. For many consumer goods, on the contrary, customization is limited to the choice between some variants available. Yet, due to highly flexible manufacturing technologies the amount of available variants is constantly increasing and customization in consumer product markets is getting more and more individualistic. Thereby new technologies, e.g. the internet, enable customers to directly interact with a company in order to specify their unique requirements, which then are manufactured by automated systems. Mass customization is a buzzword commonly used to describe this tendency [Pin93], [Ble05]. User integration thereby is to be seen from a service perspective whose objective is to support the user in formulating and communicating their requirements via respective interfaces. This approach to user integration certainly imposes challenging demands on supporting the user within respective tasks and activities through new technologies as well as on the automated integration of individual requirements into manufacturing processes. The development of solutions for these new challenges calls for user-centred development approaches themselves and necessitates user integration approaches as described above. The actual integration of users within mass-customization processes, however,

ultimately needs to be an automated process. Consequently, user integration for developing new interfaces and technologies that support the communication of individual requirements to the company requires the involvement of users as inspirers as well as informers and is highly relevant for the research on hand. Hence, the following remarks will mainly apply to user-integration within the product innovation and the product configuration phase.

2.4.2 Philosophies of user integration and methodological implications

Tapscott and Williams [Tap06] acknowledge that product and service innovation is increasingly induced from outside the company. Globalization and competitive pressure force corporations to innovate at a continuously higher pace at competitive costs. According to a cross-industrial poll conducted by Cheskin and Fitch [Che03] companies perceive the throughout understanding of the customer as the primary ingredient of innovation. This finding should come with little surprise, as over the last two decades various studies confirmed the positive correlation between innovativeness of a company and the early integration of end-users into the product development process [Sha85], [Mai85], [Gem92]. Consequently activities for user-centred product development more and more are moving towards the fuzzy front-end of product development, as there possible positive impacts on innovativeness and competitiveness are the biggest [Wec05].

Sanders [San06] summarizes these tendencies with that “the market-driven era is finally giving way to the people-driven era” and points out five implications of this movement on design and product development:

- people who are not educated in design are designing;
- the line between product and service is no longer clear;
- the boundaries between the design disciplines are blurring;
- the action now is in the fuzzy front-end of the design development process with a focus on experiential rather than physical or material concerns;
- the action in the fuzzy front-end is all about new ways to understand and to empathize with the needs and dreams of people.

To summarize the current state of actions at the fuzzy front-end of product development Sanders developed a cognitive map that arranges different **design philosophies** based on their conceptual mindset of user integration as well as on the objectives of user integration (ref. Figure 2.9). In accordance to the differentiation between informer and inspirer made above the conceptual understanding of user integration can be differentiated into an expert and a participatory mindset. The prior mindset integrates users as objects that inform the development process rather reactively, i.e. they are to be analysed or their creations are to be analysed in order to derive implications for product development from that. From the latter mindset users are perceived as partners that actively co-create solutions together with developers. Hence, their thoughts and creations directly are incorporated into product development. The second dimension of this cognitive map is concerned with the objective of user-integration and can be differentiated into two driving forces behind respective activities, i.e. to research or to design something.

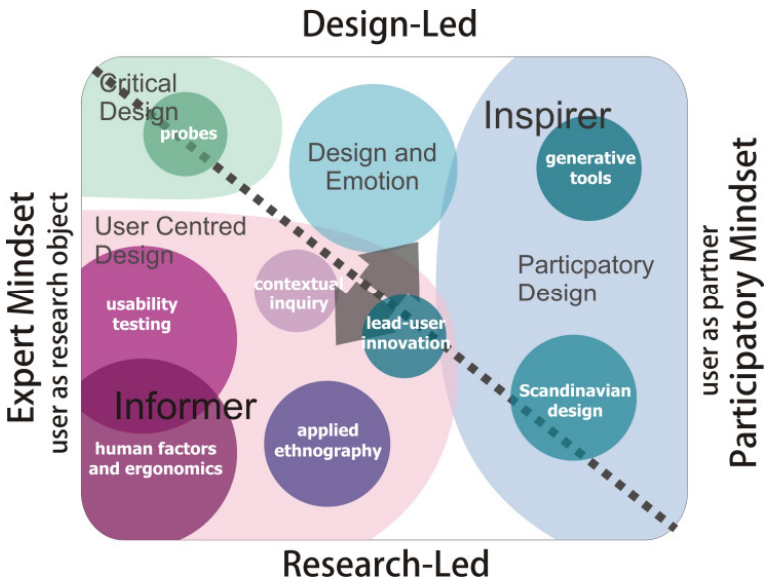


Figure 2.9: User Integration and Design Philosophies (based on [San06])

Sander's cognitive map is constituted of zones, clusters and bubbles. Zones, the larger, light-coloured areas in the background of the map, represent different design philosophies, e.g. user-centred design, and include clusters, larger circles, that stand for established activities within the respective philosophy, e.g. usability-testing. Bubbles are smaller circles that represent specific immerging user-centred approaches or methodologies, e.g. contextual inquiry. Without going into details of design research to introduce the different design philosophies and activities, their localization on the two-dimensional space of the cognitive map already holds valuable insights in regard to the role the user plays and for deriving methodological implications from that.

The more top-right an activity integrating the user can be located, the more the user needs to act as an inspirer and the more applied methodologies need to facilitate this role. In contrast, the more bottom-left an activity can be located, the more the user acts as an informer of the development process.

2.4.2.1 The user as inspirer

User-integration within the fuzzy front-end mainly pursues the objective of fostering **product innovation** [Tho02] while minimizing risks of market failure at the same time [Kau07]. Derived from the Latin word 'innovatio', the Merriam-Webster's Online Dictionary defines innovation as "the introduction of something new" or "a new idea, method, or device" [Mer08]. In the face of increasing global competition and a speed of change never experienced before in nearly any domain of life, e.g. biotechnology, environment, society, industry or science, corporations are forced to come up with new solutions to existing as well as to new problems at an always higher pace. Hence, innovativeness is perceived as one of the most competitive advantages in nowadays global economy [Che03], [Sei06]. Research suggests that activities at the fuzzy front-end significantly influence product innovation [Koe02]. This, however, does not imply that innovation does not occur during the phase of new product development. Particularly process innovation, which also must be understood as a significant competitive advantage, is most likely to happen there. Yet, innovation at the fuzzy front-end is most likely the one with the highest leverage. The structure of problems encountered at the front-end

necessitates the application of different approaches to arrive at innovative solutions than in the later stage of new product development. Just like the name indicates, problems at the earliest stage of product development are fuzzy, i.e. the problems **are ill-structured problems** and provide little to no information for the problem solver of how to develop a solution or to approach the problem-space the best way. Problems within the later stages of product development, though, mainly are semi-structured or even well-structured ones [Koe02]. For well-structured problems all information necessary to solve the problem gap is usually available and such problems can be solved by the application of respective algorithms. Semi-structured problems fall in between the other two problem categories and provide at least some cues on how to approach and solve the problem. Generally heuristics can be used to solve them. Ill-structure problems however, can neither be solved by algorithms nor by heuristics. Such problems require "**creative responses**" in order to be solved [Van88]. Thus, for innovation at the fuzzy front-end creativity plays an essential role. Cropley and Cropley [Cro05] define creative engineering products based on four dimensions and argue that innovative solutions fulfil all of them:

- **Relevance and effectiveness:** The product solves the problem it was intended to solve.
- **Novelty:** The product is original and "surprising".
- **Elegance:** The product is "beautiful" or pleasing, and goes beyond a simple mechanic solution.
- **Generalizability:** The product is broadly applicable – it can be transferred to situations other than the present one and opens up perspectives for solving other problems.

To arrive at such solutions creative problem-solving processes are to be applied. These include generally a phase of preparation in which the problem-solver deeply immerses into the problem-space, followed by some time of incubation in which the conscious contemplation about the problem is stopped and unconscious creative activities are at work that eventually lead to an illumination (not always, though), i.e. a situation in which new insights suddenly come to mind. Finally, these insights are to be elaborated and verified within a verification phase [Wal26]. During this process creative thinking plays a major role and, even though not uniformly defined, is commonly understood as original, flexible and fluent thinking [Tor66], [Gui67]. Originality refers to unusual and novel ideas, flexibility is related to thinking outside the box and considering a number of different approaches, and fluency is concerned with the total amount of ideas generated. Lateral and divergent thinking styles are acknowledged to support such processes and are discussed at length elsewhere (e.g. [DeB92]). Creativity research often is concerned with creative potentials and thinking processes of individuals. Product development, however, usually happens in development teams that jointly work on innovative or creative solutions to given problems. This work usually happens in so called **creative knowledge environments** (CKEs) [Hem04]. Within those environments the user is increasingly understood as a source and driving force for creativity and innovation [Tho02], [Kri02] and plays the role of an inspirer who is actively involved in the product development process [Sei06], [Kan06].

From the perspective of early user-integration, therefore, it seems reasonable to focus on components and characteristics of the CKE in order to derive methodological implications from that. Based on an

extensive literature review, Figure 2.10 summarizes components of CKEs and their promoting characteristics.

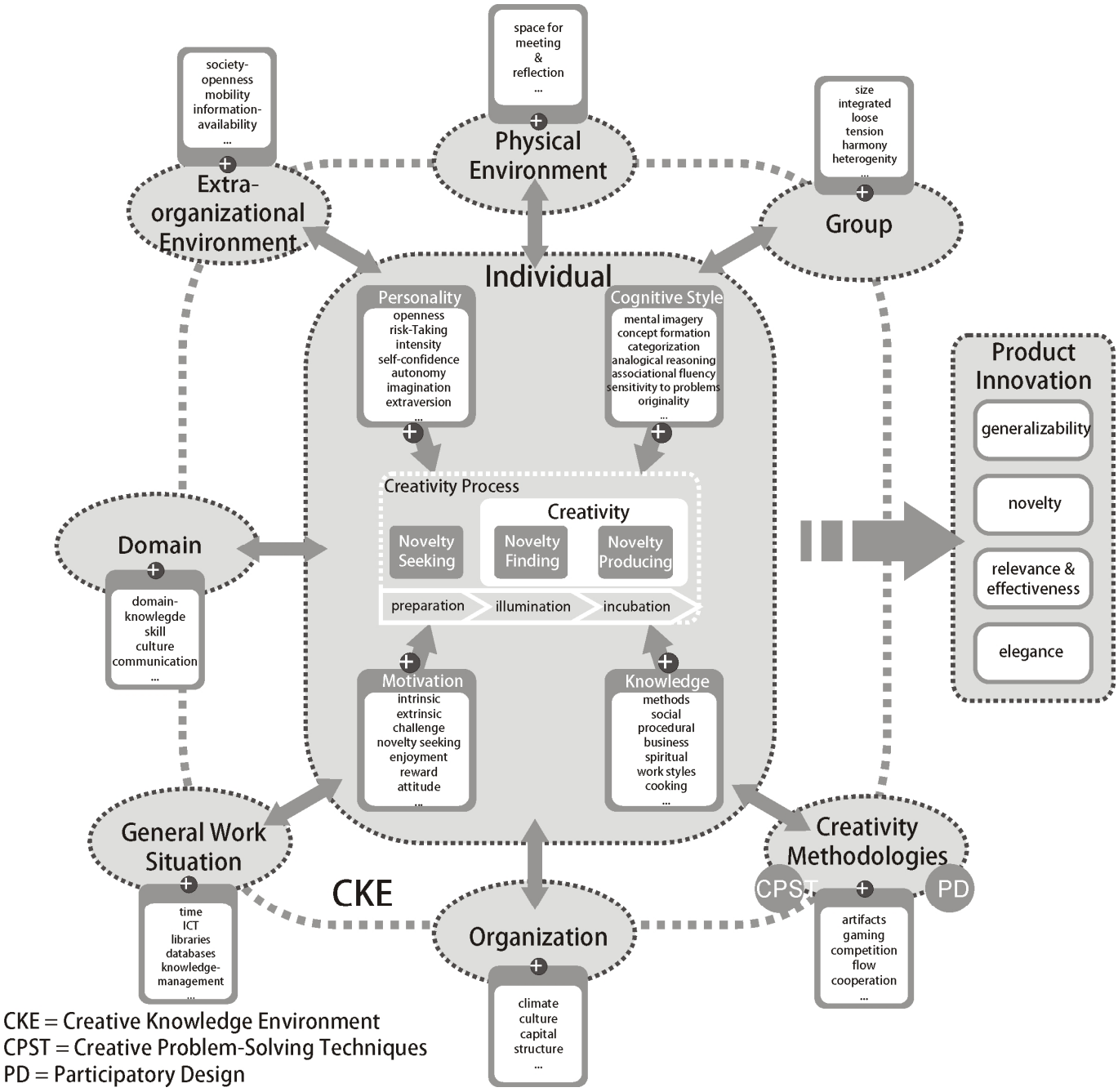


Figure 2.10: The User in the Creative Knowledge Environment

CKEs are complex systems and can be analysed from a micro- (e.g. among individuals and their environment), a meso- (among groups, organizations, etc.) and a macro-level (e.g. national, international, global) [Mar04]. Their primary components are individuals, with their respective creative potentials and limitations, who are part of a group, embedded in a physical, organizational and extra-organizational environment, which stands in mutual constraining relationship with the general work situations and the domain, and who engage in certain activities structured by methodologies to support creative processes. All those components are highly interrelated (connections depicted in Figure 2.10

are to be understood as very simplified). Consequently methodological implications, which are the matter of concern here, are to be derived from various components of the CKE.

First, the quality of creative outcomes in terms of originality, fluency and flexibility is largely determined by neurocognitive and psychological premises of the **individual**. Basic individual novelty-seeking behaviour can be associated to specific neurotransmitter activities. Thus, creative foundations are most likely to be preset by an individual's genetics [Schw06], [Pii05]. Beyond, certain cognitive styles, e.g. associational fluency, sensitivity to problems, figural fluency, ideational fluency, concept formation and many others, are positively associated with creative problem solving abilities [Car93], [Fin92]. Personality, i.e. consistent individual behaviour patterns, also is proven to influence creative abilities. Supportive traits are, for example, self-confidence, risk-taking, openness, extraversion, independence, and non-conformity [McC87], [Schw06]. Furthermore, individual motivation for participating in creative problem solving processes affects thought-efforts and the creative outcome. Research proves intrinsic motivation positively and extrinsic motivation negatively influencing creative efforts [Ama99]. This, however, does not imply that external rewards cannot be beneficial to innovative activities, but their effect strongly depends on their administration and context [Mar04]. Finally different kinds of knowledge are proven to facilitate creative processes. These include specific domain knowledge, e.g. thermodynamics or cooking, [Pii05] as well as general methodological and procedural knowledge for approaching and structuring ill-structured problems [Tal06], [Van88].

Besides inspiring effects due to shared knowledge, experiences and perspectives, **groups** can also negatively influence creative processes due to procedural, psychological and economic effects. Production blocking, a major procedural problem in creative group collaboration, occurs when individuals try to simultaneously express their ideas. In consequence individuals that are not being able to communicate their thoughts might forget own ideas or perceive them as less appreciated by the rest of the group. A major psychological draw-back of group efforts towards creative problem solving is the group-members' fear of criticism from others. This effect is commonly referred to as evaluation apprehension. Free riding, or social loafing are economically induced problems that occur if individuals become lazy in groups and put less efforts in thought processes than if they were alone [War06]. Thus, group composition, e.g. heterogeneity, leadership style, size, or cohesion, as well as group-norms, e.g. communication, behaviour, or conflict-style, play an important role for creative problem-solving. In most cases trade-offs are to be balanced to maximize success. Heterogeneity, for incidence is proven to facilitate innovativeness. A too diverse group, however, will prevent members to find a common language and an even level for knowledge exchange. Equally, too much group-tension will increase the effect of evaluation apprehension, a too cosy setting, though, is likely to abate idea-generation [Mar04], [Ng01].

The CKE also comprises the general work situation of individuals and the physical space in which the creative process takes place. A **general work situation** facilitating creative problem solving leaves individuals enough time for immersing in new problem-spaces and supports knowledge exchange through appropriate information and telecommunication technologies, databases, libraries, etc. The **physical space** needs to enable individuals to meet in groups and to contact other people as well as to retreat in order for individuals to reflect in solitude.

In most cases the **organizational context** will largely determine general work situation and physical space. Additionally, organizational culture strongly effects CKEs. Therefore, particularly management and leadership styles have seminal effects on the establishment of work ethics and values that foster trust, communication, openness, learning and the acceptance of failure [Bra06a]. Hence, sufficient funding and flat organizational hierarchies are proven to positively influence creativity-driven projects [Mar04].

The organization is embedded in some **extra-organizational context**, e.g. social and political context (ref. chapter 2.1.3). A nation's economic development, the free access to information as well as the voluntary mobility of personnel and society are factors influencing the CKE. Part of this is the **domain** that represents the general field of the problem-space and which can comprise scientific disciplines as well as industries (e.g. anthropology, business, engineering, computer science, semi-conductors, or automobiles). Usually domains share some basic culture in terms of language, research principles, funds available, mind-set and others. Such domains cross national boarders and cultures, but nonetheless affect CKEs [Mar04].

Last but not least **creativity methodologies** are valuable tools for creative problem-solving endeavours and part of the CKE. Primary objective of their application is to enhance the efficient utilization of individuals, to reduce uncertainty and to increase the amount of alternative solutions. A benefit that can be derived from that is a decrease of revisions as better solutions can be expected to be chosen, which in turn represents a competitive advantages for the firm [Sum76]. The literature on idea-generation, creative and lateral thinking summarizes a vast amount of creativity techniques which can basically differentiated into methodologies for problem-redefinition and analysis, for idea generation, for evaluating and selecting as well as for implementing solutions. VanGundy [Van88] summarized 105 techniques already in 1988 of which many where already developed in the 1950s and 1960s but have been fallen in oblivion.

Implications

Being part of and utilizing features and structures of the CKE, creativity methodologies can be expected to work best if they are aligned with the very basic supportive features of the CKE's other components. Thus the CKE imposes some procedural as well as conceptual requirements on the applicability of creativity techniques. Thereby, the application of **recruitment procedures** that enable the identification of individuals with high innovative potential obviously will enhance successful method application [Bjö04]. Thomke and von Hipple [Tho02], for incidence, introduced the concept of 'lead-users' who are customers with needs, engineering skills and little experience in traditional development for choosing appropriate inspirers. Additionally, pilot-studies, questionnaires or creative applications can serve as a basis for identifying rather creative participants. Conceptually, remarks made above suggest co-operative **team** efforts to best suite creative activities. Thereby, the right balance between openness, to enable the flexibility of thoughts, and structuredness, to organize collaboration and communication, has to be found. Hence, the integration of **artefacts** to spark innovation as well as to lower abstraction-levels and facilitate communication is proven to conceptually improve creativity methodologies [Kan06]. To build on human playfulness, gaming and competition also are factors likely to work in favour of creative outcomes; of course depending on their

administration and alignment with individual premises. Among 'modern' user-centred product development approaches, particularly participatory design methodologies, i.e. workshops and games, as well as the so called 'Scandinavian design' methods that intensively are utilizing artefacts, e.g. puzzle interviews, seem to embrace these requirements [Mul03], [Wol06], [San06]. Finally, creative methodologies in the fuzzy stage of user-centred product development necessitate communication practices and methodologies that enable the inspiration, engagement and empathy of developers and other agents of follow-up process phases [Vis07].

Those are immense organizational, procedural and conceptual requirements imposed on user-integration within the early stage of product development. Nonetheless, this earliest stage of user-integration has a huge leverage, and consequently large effects can be achieved at comparatively low costs. The user as inspirer, though, is only one role users can play within user-centred product development efforts. To integrate users as informers seems at least equally important.

2.4.2.2 The user as informer

The user as informer plays a rather passive role in user-centred product development, what does not imply that the user does not engage actively in certain activities. However, the primary objective for involving users from this perspective is to **elicit** findings regarding **individual differences** that influence utility, usability and hedonic attributes of the product to be developed. The user, though, is not actively involved in actual development activities as opposed to his/her prior role described. Initially mainly concerned with utility and usability dimensions of product quality, research increasingly acknowledges the importance of hedonic qualities related to product use [DeA02] and therefore calls for an holistic understanding of the user. Consequently, users are integrated into the product development process to gain insights about physiological, social, psychological and ideological premises of respective user-groups [Jor00].

Protagonists of different user-analysis approaches are trying to differentiate themselves and their approaches by focusing on different objects of analysis. At the same time, however, they all acknowledge the importance of a holistic understanding for successful product development. Task analysis, for incidence, approaches the problem-space from the task but ultimately includes all aspects of the "users' work and play (and) (t)hus encompasses all sorts of techniques" [Red03]. Contextual design, on the contrary, starts from the user's and product's context of use and describes "a full front-end design process (…) (and) can be viewed as a series of techniques (…) (that) can feed existing requirement specification formats" [Hol03]. Mayhew's usability engineering lifecycle [May99] can be understood as another 'full front-end' design process that includes "structured usability requirements analysis tasks" [May03]. What all approaches have in common, is that they ultimately are concerned with an throughout understanding of the user, his/her tasks as well as the context of product use and that real end-users are early and continuously engaged in applied research activities for gathering respective information to inform follow-up development activities. Thus, the question of which traits of the user and the environment to consider within user-analysis efforts to efficiently and effectively inform follow-up activities is of utmost importance.

Initially users were broadly differentiated based on technology expertise, task experience, educational background, linguistic abilities, gender and age. The problem with such data is that it has only little predictive power in regard to a new system to be developed as it lacks generalizability. Expertise and an educational background suitable for operating a system A, simply does not necessarily enable the user to operate system B equally well and inter-individual differences within genders of age groups are tremendous. Hence, the possibilities of abstraction and reuse of findings are quite limited. In 1996, Dillon [Dil96] suggested to focus on cognitive and psychological perspectives to enable the categorization of users and to pin down relevant research issues for user-analysis. Particularly findings of **differential psychology**, e.g. [Thu38], [Car72], he expected to improve user and task analysis for user-centred product development. In consequence, activities for analysing user-requirements should focus on general differences in human abilities. Based on a throughout re-analysis of basic human abilities Carroll [Car93] distinguishes between eight ability categories, of which each can be further differentiated into specific level factors. These abilities are all to be seen in relation to a superordinate ability called 'general intelligence'. Hence, ability categories applicable for the domain of user-centred product development are:

- **fluid intelligence** is concerned with basic processes of reasoning and other mental activities and comprises factors such as general sequential reasoning, induction or quantitative reasoning
- **crystallized intelligence**, which comprises factors such as lexical knowledge, language development or verbal language comprehension, and is concerned with mental processes that reflect the effects of experience, learning and acculturation
- **general memory and learning** refers to abilities required to learn and memorize any new contents or responses. A clear specification of the structure of learning and memory abilities is not yet established, they include, however, factors, such as memory span, associative memory, free recall memory or visual memory
- **broad visual perception** refers to the perception of visual forms as such. Factors associated to this ability are, for incidence, visualization, spatial relations, perceptual speed, or flexibility of closure
- **broad auditory perception** relates to factors, such as hearing and speech thresholds, general sound discrimination or temporal tracking and is related to any task that requires the discrimination and perception of auditory stimuli
- **broad retrieval** abilities relate to any cognitive activities that require the access and retrieval of concepts and ideas from the long-term memory. Constituting factors of this ability, for example, are originality/creativity, ideational fluency or expressional fluency.
- **broad cognitive speed** abilities influence any cognitive action that requires the rapid cognitive processing of information and comprises factors, such as numerical facility or perceptual speed
- **processing speed** relates to the speed of decision and includes the factors simple reaction time, choice reaction time, semantic processing and mental comparison speed

In-depth understanding of these abilities of respective user groups hold valuable insights regarding requirements, limitations and needs from the cognitive perspective. However, the mere focus on cognitive differences seems not sufficient for user-centred product development as this perspective only addresses one human subsystem, i.e. the cognitive one, and is limited to inform further product development endeavours from a usability perspective only. In consequence, the cognitive approach is increasingly criticised for neglecting hedonic and emotional criterions of product development [Ove03]. Beyond, requirements induced by the prospective product's context of use are not considered if the focus is merely on basic human cognitive abilities.

Based on four **dimensions of pleasure**, i.e. physio-, socio-, psycho- and ideo-pleasure, Jordan [Jor00] derived a comprehensive list of issues to be analyzed in order to understand the user holistically. In Table 2.2 this list is depicted extended by the primary source of information for eliciting respective information.

Table 2.2: Holistic User Perspective and Information Source (based on [Jor00])

Characteristic		Description	Examples	Information Source	
				Level 1 (System)	Level 2 (Subsystem)
physiological	**special advantages**	special skills of people, either inherited or learned, that allow them to perform in a particular task	certain strength, quick reflexes, dexterity	human	physiological
	special disadvantages	conditions of people which leave them temporarily or permanently at a physiological disadvantage	illnesses, injuries, blindness, pregnancy	human	physiological
	musculoskeletal characteristics	characteristic of the skeleton and muscles; change over time	motor control, strength, fitness	human	physiological
	external body characteristics	external characteristics of the body as anthropometrically measured as well as hair, eye and skin colour	height, weight, body-shape	human	physiological
	body personalization	alterations people make to their bodies in order to personalise them; often means of social and ideological expression	hairstyles, piercing, tattooing, jewelleries, plastic surgeries	human	physiological
	physical environment	environmental factors beyond the human skin influencing behaviour and (re-)action	temperature, humidity, noise, cloths, space	context	technical
	physical dependencies	addictive dependencies and effects of those on lifestyles	smoking, drinking	human	physiological; cognitive; emotional
	reaction to the physical environment	individual difference in reaction to environmental influences	adaptation to heat, cold, smoke, dust	human; context	physiological; cognitive; emotional; technical

Characteristic		Description	Examples	Information Source	
				Level 1 (System)	Level 2 (Subsystem)
Social	**sociological characteristics**	country and culture a person lives in and associated values and customs	political conditions, individual freedom, cultural standards and norms, values	context	social; cultural; organizational; political
	status	how a person is perceived by others, a person's standing in the society; connected to culture	relation to certain social groups, titles	context	social; cultural; organizational; political
	social self-image	how a person sees him/herself in terms of social identity and status	self-confidence, self-esteem, arrogance	context; human	social; cognitive; emotional
	social relations	relations of an individual to other individuals or social entities	family, friends, living circumstances	context; human	social; emotional
	social labels	characteristics of individuals others are using to make assumptions about their social attributes; visible and invisible characteristics can be used as labels	gender, clothing, ethnic origin, accent, nationality, education	context; human	social; cultural; organizational; physiological
	social personality traits	personal characteristics that influence the way how people relate to others	sense for social responsibility, egocentrism, curiosity	context; human	social; organizational cognitive; emotional
	social lifestyles	patterns of activities and behaviours related to others, life preferences	fun-seeking, safety-seeking, family-life	context; human	social; emotional; cognitive
psychological	**special talents and difficulties**	special abilities or disabilities of an individual affecting product use; relates to cognitive abilities	intelligence, creativity, logical reasoning	human	cognitive
	psychological arousal	temporary states of arousal of the whole psychological system that effect actual behaviour and action	stress, tiredness, excitement, desire	human	emotional; cognitive
	personality traits	steady psychological attitudes influencing personal behaviour patterns	openness, extraversion, neuroticism	human	cognitive; emotional
	self-confidence	a persons belief in him/herself in regard to goal achievement	believed computer literacy, believed language skill	human	cognitive; emotional
	learned skills and knowledge	skills and facts a person can draw from for completing certain activities; relates to cognitive abilities	typing skills, thermodynamics	human	cognitive
ideological	**personal ideologies**	ideologies a person uses as a basis for personal lifestyle choice and setting goals and aspirations	honesty, materialism, self-actualization	human	emotional
	religious beliefs	part of ideology, religiously induced moral codes and beliefs	humanism, spiritualism	context; human	organizational; political; cultural; emotional
	social ideology	beliefs about the way in which a society should conduct itself and the way individuals should interact with others in society	environmentalism, altruism	context; human	political; social; cultural; emotional
	aesthetic values	determine what people perceive as aesthetically pleasing; aesthetic taste	special shapes, colours, smells	human; context	cognitive; emotional; social
	aspirations	goals that motivate and guide behaviour and decision making; ways in which people wish to see themselves	career-person, realist, innovator	human; context	cognitive; emotional; social; cultural

All of these dimensions are to consider for the development of holistic user profiles. The primary sources of information for filling respective variables with life are the user, the context of use or both. Of course, not all variables are always relevant or equally important for product development as respective dimensions are determined by the product to be developed. For industrial products, for incidence, ideological influences seem less important than psychological and physiological ones. For

the software and entertainment industry, however, considerations of ideological premises of prospective users might be at least as important as psychological ones, while physiology plays only a minor role.

Implications

To elicit specific insights relevant for product development different analysis methodologies are applied. Over the last decades various user analysis methodologies have been (re-)discovered and re-invented within the field of user-centred product development. Two prominent approaches worth mentioning due to their immense impact on user-centred research are contextual inquiry [Hol03] and applied ethnography [Blo03]. Both approaches share the same philosophy of analysing users and their context in the field and thereby apply a certain set of methodologies that, even though labelled differently by different protagonists, can all be traced back to basic methodologies of investigation originating from the broad domain of social science. They all include some sort of interviews, observations, artefact analysis and/or self-reporting techniques. These basic methodologies often are extended with some procedural and technological add-ons to facilitate retrieval, documentation and communication of findings, e.g. digital ethnography [Mas03], [Tay02] or digital story-telling [Vau04], [Lan06]. However, their underlying premises and characteristics of information gathering remain the same and will be introduced below. Being basic methodologies with a long tradition in social science which are discussed at length elsewhere (ref. [Cra02], [Blo03], [Bor02], [Mas03], [Red03], [Cou05]) their introduction will be held rather brief.

In **interviews** participants provide information about behaviours, thoughts or feelings by responding to questions posed by an interviewer. Hence, interviews always necessitate a certain amount of interaction between interviewer and interviewee what differentiates them from self-report approaches and observations. Depending on openness one can broadly differentiate between three interview categories, namely unstructured, semi-structured and structured interviews. Unstructured interviews can be understood as rather casual conversations of which only the overall objective is fixed. On the contrary structured interviews represent interviewing activities based on formal questionnaires. Hence, each question is fixed and possible answer alternatives are given. Interviews rely heavily on the participants' willingness and capability to answering questions. Consequently, interviews impose some constraints on participants in terms of minimal verbal skills and openness. Various effects, e.g. halo-, or conformity-effect, are known to influence interview results and are discussed at length in the literature (e.g. Bortz [Bor02]). Beyond, possible insights collected via interviews are limited to the participants' explicit knowledge as this is the only one a person can verbally communicate.

Observational methods are analysis techniques that are aimed at data collection in (natural) context. Primary objectives of analysis are behaviours, events and contexts. Based on observer involvement observational methodologies can range from participant-observations where observer and participant closely interact with each other, i.e. the observer is part of the action, to observations in which the observer attempts to be as unobtrusive as possible. The benefit of observational techniques is that they enable the collection of tacit user-knowledge and complex activities in real world settings. Thus, the contextual impact on behaviours and task-execution becomes clearly visible. In most cases these techniques hardly impose special requirements on participants as they are to act naturally in a known

setting. Sometimes, though, the user is to act in new and unknown environments what makes actions more challenging but usually does not necessitate the user to acquire special knowledge s/he does not yet possess. The observer, however, might require a certain amount of domain-knowledge in order to make sense of observed behaviours, events and contexts. Hence, does the knowledge about being observed often influence participant behaviour and affects observation results. As concealed observation efforts often are not applicable due to ethical considerations, scientists sometimes rely on workarounds, such as self-reports through diaries or audio/video-observations to collect desired data. Consequently, procedural considerations and access issues are important factors influencing the feasibility of such methods.

The **analysis** of **artefacts** is commonly applied to inform user-centred product development endeavours with the users' understanding about certain objects of their environment. Artefacts can be examined from various perspectives, such as physical-technological characteristics, conversational role, social meaning, or situation-specific use. Depending on type of artefact and research perspective, artefact analysis can generate cultural, social or technical insights. The analysis of secondary information sources, e.g. technical documentations, ethnographic reports or personal diaries, thereby can be an as much valid analysis activity as the direct observation and analysis of an artefact. From a methodological perspective artefact analysis does not impose any restrictions regarding the user as analysis activities are generally conducted without his/her cooperation. Nonetheless, for analysing artefacts users can serve as an additional source of information. In those cases user-engagement is realized via interviews, observations or self-reporting techniques and respective constraints apply. The researcher analysing the artefact, however, is necessitated to have or acquire necessary back-ground and domain knowledge in order to be able to understand artefacts, their use and their meanings.

During the data collection via **self-reporting techniques**, no interaction between researchers and participants takes place. Depending on reporting medium and openness of reporting style one can differentiate between open vs. closed as well as between paper and pen vs. technology-supported approaches. From a dynamic perspective approaches can be further differentiated between real-time approaches, where participants report actually occurring events and asynchronous, summative approaches, where occurring events are documented and further communicated at a later point in time. An example for a closed paper and pen approach would be a questionnaire; an example for an open one would be a diary study. Increasingly researchers apply digital technologies to facilitate self-reporting techniques. Digital cameras, for example, are used to document and illustrate specific issues and SMS, chats, bloggs or webcams are applied to have participants inform researchers continuously, in real-time and with high descriptive power. Besides basic writing and/or drawing skills required for paper and pen based techniques, ethical considerations play an important role for determining the feasibility of technology supported approaches.

In most cases these basic methodologies are combined in order to derive a throughout understanding about the user as well as the context of use from that. Sometimes, however, it seems that basic methodologies are combined merely to give them a new name. All these methods are not new and have been applied in social science for centuries for eliciting and explaining behaviours, cognitive structures or meanings. As a consequence of the increasingly holistic understanding of user-centred

product development, these classic user analysis methods are blamed for being too observation- and interview-based and therefore not being applicable for eliciting insights about the user that are difficult to observe and hard to communicate, such as emotions and concepts [Bon02]. This research perspective could benefit from creativity, participatory and 'Scandinavian' methods as introduced above (ref. 2.4.2.1) as well as from social cognition methods which are particularly designed for measuring implicit thoughts and feelings [Cra02].

2.5 The international perspective

When developing products or services for markets abroad, the major system components of user-centred product development still remain to be humans, contextual environments and products and their interrelations as discussed in chapters 2.1 and 2.2. Their characteristics, however, differ from market to market. Consequently, just like individual differences, whose components are the same across individuals, but whose characteristics strongly differ, cultural differences are to be considered within user-centred product development approaches across cultures.

Within the following chapters basic concepts towards the development of products for markets abroad will be introduced. Hence, approaches and models widely applied within this domain will be briefly discussed. Finally, fundamental theories underlying these approaches and models will be scrutinized.

2.5.1 Globalization, Internationalization and Localization

Globalization refers to the world wide integration of financial and product markets, accompanied by political, social and technological convergence. One major protagonist coining the term globalization was Theodore Levitt, who introduced globalization as an economic movement that will ultimately end in one global market in which all players are to directly compete with the consequence of vanishing cultural differences [Lev83]. More recently Friedman announced "The world is flat" in the sense that global competition between developed and emerging countries now occurs on a levelled field suggesting that Levitt's presumption already came true [Fri05]. For justifying the research on hand it seems worthwhile to point out that his perception of a globalized world applies to an economical perspective only and already from this perspective is criticised as largely overestimated. If cultural convergence would be reality the contextual subsystem culture could be largely neglected in regard to user-centred product development from international perspective, as user-groups around the world would share the same meanings and values. Yet in reality, culture is very reluctant to merge – a fact many companies painfully had to learn during the heydays of global branding in the early 1990s [Pra03b]. In fact, the combination of increasing international sales and global competition with only reluctant cultural convergence – if convergence at all – increases the need for serving the specific needs of national markets [Ghe07]. This requires the extension of the system user-centred product development on international level by two activities, namely internationalization and localization.

The Localization Industry Standards Association (LISA) defines internationalization as "the process of ensuring a technical/design level that a product can be easily localized" and localization as "the process of modifying products or services to account for differences in distinct markets" [Lom03]. Obviously, both activities organized by respective processes are inextricably linked to each other.

Internationalization is the technical preparation of a product's localization i.e. the prior sets the stage for the latter. This primarily means to abstract basic product functionalities from product components that are affected by specific traits of the distinct target market, e.g. language, semiotics, or colours. Particularly for platform-oriented approachs towards international user-centred product development the internationalization of platform components is of utmost importance to reduce costs and enhance localization speed [Vuu01]. But even if product development is not platform-driven developers are well advised to account for internationalization requirements of basic product components if they are to enter global markets. In most cases products for specific markets are not being developed completely from the scratch, but basic components of other products are re-used. The internationalization of basic product components, thus, saves time and money; two critical factors in international competition. Internationalization activities are to accompany mainly analysis and design activities in terms of identification of product components that are object of internationalization and developing solutions of internationalized functionalities and designs. Nonetheless, internationalized solutions are to be tested and thus this activity is related to evaluation activities, too.

After the completion of these activities the product is ready for **localization** for respective target markets. Thereby localization issues comprise the whole scope of user-centred product development and are not limited to the mere adaptation of interfaces. Thus, depending on domain, successful localization requires the consideration of linguistic, content and cultural as well as technical issues [Gal96], [Lom03]. While linguistic issues obviously relate to the translation of a product's interface and documentation, cultural and content issues comprise the culture specific understanding of presented information (e.g. formats, semiotics, colours) as well as local task, goal, activity and contextual requirements. Local language as well as contents directly relate to technical issues, as often redesigns are required and functionalities are to add or to change. Beyond, further local contextual requirements, e.g. heat, humidity, dirt, directly affect the feasibility of different technical solutions. The scope of issues to be considered requires localization activities to supplement all user-centred activities, i.e. analysis, design and evaluation. Local requirements as defined by the user and his/her goals as well as the local context are to be elicited and specified, solutions are to be developed and integrated into the product, which then are to be tested for scrutinizing their feasibility in regard to real local users and the context of use.

2.5.2 Approaches and Models of Localization

Despite increasing necessity of product localization the integration of localization activities into a holistic user-centred product development process which in turn is deeply ingrained in the PLM is still in its infancy. Often enough "island solutions" are applied that do not utilize the full benefit of this approach [Lom03].

A rather comprehensive approach for integrating local requirements into user-centred product development endeavours was introduced by Röse with the Method of Culture-Oriented Design (MCD) [Rös02] . By integrating an abstract user-interface model from an engineering perspective (ref. chapter 2.2.1) with the user-centred process model according to ISO 13407 (ref. chapter 2.3.1) from international perspective, this approach enables the identification of **cultural variables** that influence product development.

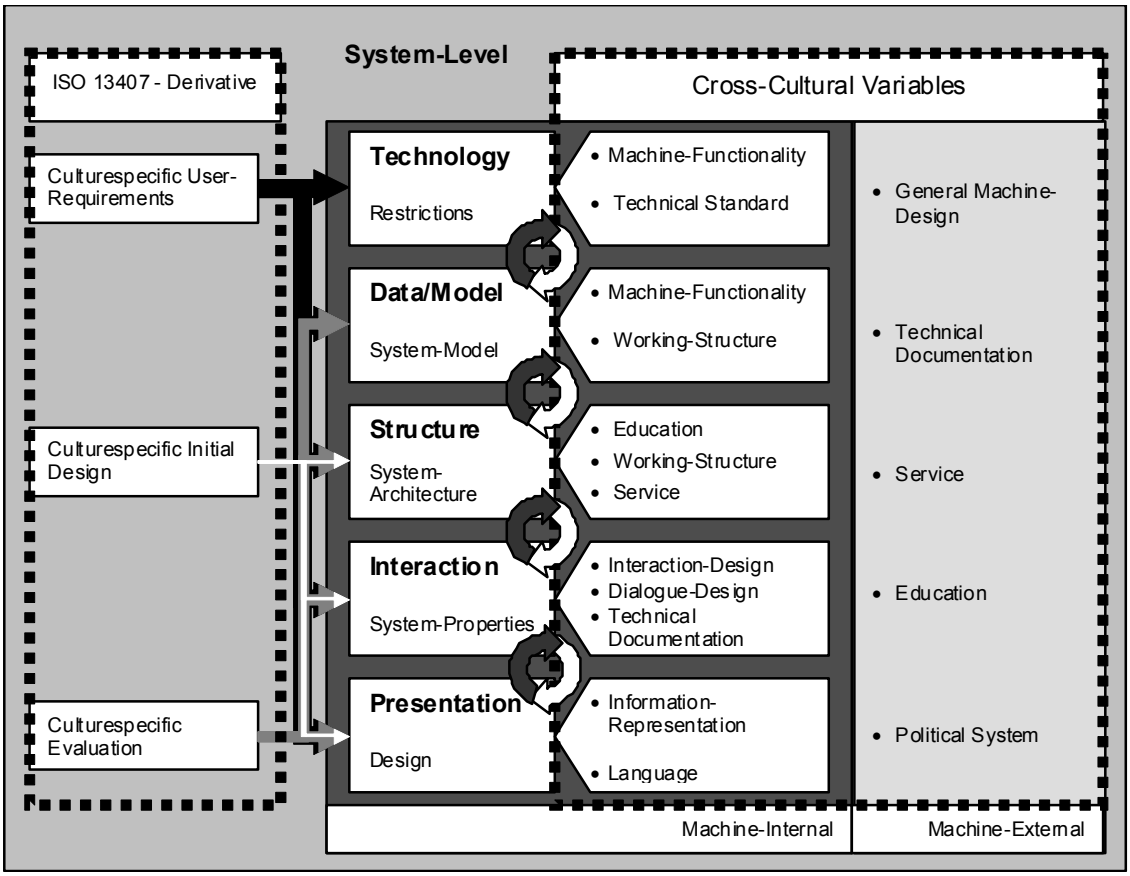


Figure 2.11: Method of Culture-Oriented Design and Cultural Variables (ref. [Rös02], [Bra06b])

The ratio behind the identification of cultural variables is that culture has a strong impact on almost every aspect of how humans perceive, understand and manipulate their environment. Research proves culture to affect human cognition, emotion [Mis01], values [Sch06a], personality [McC02], motivation [Mon04], problem-solving and creativity [Ste02]. Supplemented with variables that influence international user-centred product development originating form local contextual environments, cultural variables, thus, serve as connectors between cultural impacts and respective product requirements.

Initially the value of **cultural models** for identifying and analysing cultural variables were praised [Hof96]. Drawing from concepts of cross-cultural research [Sin95], [Tri95], [Hof97], e.g. cultural dimensions like vertical and horizontal individualism/collectivism, power-distance, etc., of cross-cultural communication [Hal77], [Vic92], as well as basic concepts of culture [Ste91] and cultural self-construction [Bha04] [Mar91], this approach promotes the development of specific cultural models to derive culture specific requirements from that and to inform follow-up user-centred product development activities. Increasingly, however, the importance of user-, task- and context analysis as well as evaluations on the spot within respective target markets is being acknowledged and even preconditioned for successful product localization [Dil98], [Jag04], [Dra05], [Züh05]. This development cannot at least be attributed to increasing product complexity and global competition as a result of globalization.

Instead of providing another summary of cultural theories applied in international user-centred product development,[4] the next chapter will conclude with a critical review of fundamental theories applicable for this domain.

2.5.3 Missing Fundamental Theories

Perhaps the biggest problem regarding the applicability and validity of a cultural theory for the domain of user-centred product development is to choose the right level of abstraction determined by its underlying definition of culture. Most current approaches towards the development of interactive systems adopt a nation-level definition of culture. Consequently the most commonly applied models and theories are on the nation-level such as Hofstede's dimensions, individualism/collectivism, Schwartz's Value Scale and/or other intercultural communication theories [Gill04]. However, most of these theories, originating from **cross-cultural psychology**, business and communication, have significant problems regarding validity, reliability and explanatory power. The value they add to the development of culture-oriented user-centred interactive systems seems highly questionable.

First, their high level of **abstraction** makes them incapable to pin-down and explain specific psychological phenomena, social factors and behaviours. Triandis [Tri01], for incidence, identified 60 attributes on which collectivist cultures differ. Focusing on the factors individualism and collectivism per se, thus, ignores at least 60 important cultural factors. The same is true for the widely applied dimensions of power distance, masculinity/femininity and uncertainty avoidance [Rat03].

Those dimensions are such abstract that they conflate all kinds of different facets of one culture, e.g. cognitive constructs, values, social models and political systems to one construct and thus are merely a proxy for nation that holds little more information than a countries name [Fis02], [Oys02], [Rat03]. All that can be derived from them is that there are differences between cultures. But where these differences come from cannot be explained, and this is what theories for cross-cultural user-centred product development need to provide in order to allow generalization of findings and to predict behaviours, preferences and cognitive styles from that.

Another problem is that research on named dimensions is prone to tautological misconceptions and to a confusion of correlation and causation [Rat03] [Fis02]. For example, dimensions are 'validated' by showing their correlation to concepts that define them, such as the correlation between in-group harmony and collectivism. This is a self-fulfilling statement that is correct in any case, as in-group harmony is part of the definition of collectivism and thus tautology. Furthermore, collectivism correlates with a manifold of social constructs, such as education level, wealth, political and social system. The causal relation, meaning what causes what, between them, however, cannot be explained by these theories.

Particularly in UI-development, these constructs are often applied as orthogonal dimensions. For example individualism is used to define culture A which is diametrically opposed to culture B described by collectivism and implications for UI design are derived from that [Mar05]. However, those models' factor-structure is anything but proven. Sometimes they are conceptualized as a single dimension

[4] A comprehensive review of cultural concepts applied to user-centred product development can, for example, be found in [Gou05], [Hof95], [Hof96].

[Hof97], sometimes as two dimensions [Sin94], four dimensions [Tri98] or even six [Bha04]. On top of this are applied scales and methodological approaches for obtaining these dimensions by far not throughout validated [Bha04], [Lev03], [Lev05], [Rat03], [Oys02], [Fis02].

Second definitions of meanings, values and beliefs that shape human behaviour often are based on **nation-level theories** such as Schwartz's Value Scale [Sch06a] or Inglehart's World Value Survey [Ing98]. These theories apply more concrete variables and thus do not share the same conceptual and methodological problems of approaches based on abstract variables discussed above. However, applying nation-level value systems to user-centred product development implies several flaws. One major drawback is that there is no validation and no logical reason that individual-level values can be deducted from nation-level values [Kag06]. Indeed, research by Schwartz [Sch06a] and Bond et al. [Bon04] proves that different values are obtained on nation-level than on individual-level. Hence, values are defined in context. The expression of the same value might be very different for distinct cultures. Information about the existence of certain values thus does not allow to make assumptions about the meaning of those without knowing the context [Fis02]. For instance, faithfulness to one's wife(s) is a high value in both monogamous and polygamous marriages. Its realization and meaning, however, might be somewhat different.

In consequence cross-cultural studies based on abstract cultural dimensions or nation-level theories seem quite incapable of adding value to the domain of user-centred product development. The only value they hold is to inform development endeavours that there are differences between nations. Already the question how large those differences are seems difficult to answer, as different studies applying different scales and models produce different results, and on top of this, are lacking validity criterions beyond statistical correlation, [Hei02], [Fis02]. They can only serve as a guide to a rough gap analysis between national cultures. But even this is doubtful to add value to the domain of user-centred product development. To develop interactive products actionable information about a specific group of users, about their mental models, their cognitive preferences, their sense of aesthetics, etc. is required. However, there is no evidence that nation-level characteristics represent characteristics of subgroups, i.e. a specific target-group. Applying cross-cultural nation-level theories might even be counterproductive to cross-cultural user-centred product development as researchers will be primed by those models and theories on nation-level, what in turn strongly narrows their openness to and reception of valid findings contradicting them [Brü04], [Gil04].

Last but not least violate nation-level theories the core of user-centred design principles. For more than 25 years, user-centred product development aims at the development of products to "be used by specific users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context" [ISO9241]. Theories that lump together a magnitude of individual and group constructs in one national measure seem unlikely to serve this objective. Many of those theories have their origin in business or organizational context where these models certainly add value; e.g. Hofstede primarily investigated work-related values [Hof80], [Hof97] and Trompenaars and Hampten-Turner were interested in understanding global business [Tro98]. Thus, it shall be pointed out that respective theories are not to be categorically rejected. Their domain of application, however, requires clarification. Any product development effort necessitates the organization of resources and

processes; project management is an important part of that. Consequently, international product development efforts require managerial activities across cultural boarders and thus the field would be ignorant to not consider theories and models of international business. In organizing and managing international teams and processes for developing user-centred products those concepts' application can be expected to add significant value [Mac05]. For reasons outlined above, however, they do not seem applicable to inform actual user-centred product development activities.

If the nation-level is misleading, what about cultural studies of groups and the individual? On the **individual-level** cross-cultural psychology offers a pendent to the very abstract construct of individualism and collectivism in terms of self-construals [Mar91], [Kag06]. Obviously those constructs share a lot of the problems their corresponding nation-level constructs do. They mix together all kinds of personality, cognitive and emotional traits resulting in significant drawbacks in the constructs internal and external validity [Lev03], [Lev05], [Oys02], [Fis02]. Hence, scales applied to measure them are prone to etic biases (e.g. questions and concepts of a questionnaire are framed by the culture of origin what makes their universal application highly doubtful) [Kim93] and their factor-structure is everything but clear [Tri95], [Bha04], [Mar91], [Lev03], [Lev05]. Even though researchers managed to prove a magnitude of correlations between cognitive and emotional processes and self-construals [Gud03] they still fail to explain causal relationships due to the constructs high level of abstraction. These approaches treat culture as a quasi-independent variable that, mediated by unobservable processes of the mind, affects human behaviour, personality and cognition as a dependent variable. This provides little insight about people's goals, their ideas, ideals, values, self-perception, motives or underlying strategies of their actions. Just plain effects are observed whose roots are not clearly understood. In consequence cross-cultural theories of the individual also seem to add only limited value to the domain of user-centred product development. They deliver merely descriptive evidence for cultural characteristics of cognitive, social and emotional constructs – in most cases just weakly validated.

Analogous to the nation-level, **more specific constructs** are expected to provide more specific insights into how culture affects the individual. Considering personal **values** as motivational constructs that guide individual behaviour and strongly influence various psychological phenomena the investigation into value-behaviour relations seems worthwhile. Everybody holds a subset of basic values. Based on writings of various researchers and theorists, Schwartz (2006) [Sch06b] summarizes main features of basic values as follows:

1. Values are beliefs. But they are beliefs tied inextricably to emotion, not objective, cold ideas.
2. Values are a motivational construct. They refer to the desirable goals people strive to attain.
3. Values transcend specific actions and situations. They are abstract goals. The abstract nature of values distinguishes them from concepts like norms and attitudes, which usually refer to specific actions, objects, or situations.
4. Values guide the selection or evaluation of actions, policies, people, and events. That is, values serve as standards or criteria.

5. Values are ordered by importance relative to one another. People's values form an ordered system of value priorities that characterize them as individuals. This hierarchical feature of values also distinguishes them from norms and attitudes.

This categorization of values makes them promising research objectives for the localization of products. Values are specific; they are related to emotional states and guide human decision and sense making. However, expecting research into a target-culture's value system to provide a panacea for cross-cultural product development would be extremely short-sighted. Value-systems are valuable information-sources but cannot be seen in isolation. Personal values are dynamic. People adapt their value systems to their life circumstances and vice versa. Consequently various background-variables do influence value priorities. Beyond, even though people want to act according to their values real-life situations may prevent them from doing so. Therefore, some values seem to guide behaviour more than others [Sch03]. England [Eng67] differentiates between two major value categories, i.e. values that are relevant to guide behaviour and values that are not. Relevant values he differentiates further into:

1. Operative Values which are of utmost importance and relevant for goal achievement of the individual and thus most likely to transform into actual behaviour.
2. Adopted Values which are situationally induced. Those values are only to a small extend part of the personality structure of the individual and seem hard to internalize for the person but nonetheless are likely to affect behaviour as they have been experienced as highly important to achieve desired goals.
3. Intended Values which are socio-culturally induced. Those values are considered as important by the individual throughout most of his/her life but do not fit current situational requirements. These values seem less likely to be translated from the inner state to actual behaviour.

Even though operative and adopted values are more likely to be transformed into real behaviour cross-cultural product development should take all three categories into account in order to develop products with a throughout positive and holistic user-experience. This categorization implies that the structure of the environment is at least as important as a person's value-system in order to understand his/her actions and motivation. In sum, value theory provides valuable information of motivational factors behind human action and thus possesses stronger explanatory power than cross-cultural dimensions. As an underlying theory for cross-cultural product development, however, this seems not sufficient.

Barnard et al. [Bar00], [Bar02] call for a system of theories they refer to as "type 1" and "type 2" theories. They acknowledge that user-centred product development must be understood as an X-centred system, depending on system-part to be considered. Applied theories therefore are X-centred, too, e.g. system-centred, user-centred, or team-centred. Theoretical foundations for user-centred product development therefore require macro-theories explaining how system-components across different levels interact as well as micro-theories explaining phenomena occurring on one level of respective system components. Those theories are referred to as "type 1" theories. Consequently value theory on individual level can be understood as a micro-theory for the explanation of behaviours

of the system-component human due to the impact of values, only. A macro-theory describing how other subsystems, e.g. the cognitive and the emotional system, of humans interlock to enable a holistic understanding of this system-component is still missing within the domain of user-centred product development. Beyond, the complex system user-centred product development requires further theories that explain how the different system components, i.e. humans, contexts, products, activities and processes, interact. Bernard et al. refer to those theories as “type 2” theories. Models and theories as discussed above are unlikely to provide that. Hence, the field moves further towards the integration of activity theory and distributed cognition theory. The theoretical equivalences in regard to cross-cultural product development therefore would be cultural and indigenous psychology [Kim93], [Kim06] as well as the extension of activity and distributed cognition theory with bounded rationality [Nar01], [Rap01].

This critical review of theoretical foundations of international user-centre product development clearly shows limitations of existing theories and models. Much work remains to be done to arrive at a sound scientific foundation to further advance in this field of research. Theoretical limitations in combination with ever increasing globalization tendencies, at least from economical perspective, make the application of user-analysis efforts within respective target markets, engaging local end-users and revealing contextual requirements on the spot, a prerequisite for successful product localization. Increasing competition forces companies to continuously improve processes and methodologies. Therefore, this research is to venture into the applicability of analysis methodologies for distinct locales in order to pave some of the path towards a methodological advancement of cross-cultural user-centred product development.

2.6 Challenges of international user-centred product development

In previous chapters the system user-centred product development was introduced and its extension to the international level discussed. To supplement this abstract understanding of international user-centred product development with hands on experiences and problems perceived by professionals engaged in this field, an online survey among designated practitioners and researchers was conducted between October and November 2006. Objectives of this survey were, first, to reveal procedural and methodological gaps of user-centred product development endeavours across different nations and, second, to utilize revealed findings to further guide this research.

Experts were directly invited to participate by email. They were recruited among professionals and researches with whom the work-group for User-centred Product Development at the University of Kaiserslautern, Germany, made acquaintance over the years on distinguished conferences covering this special topic.

The survey consisted of four parts of which the first covered the general profile of respective participants, the second focused on special experiences and opinions concerning user-centred product development processes in international context. The third part related to impacts on method application in international settings, and the fourth was to collect some of the expert’s further opinions. The first three parts will be briefly summarized within the next chapters. The complete survey can be found in Appendix B.

2.6.1 Participants' Profile

15 out of 70 invited internationally experienced usability-specialists completed the survey what approximates a response-rate of about 21.4%. The number of male participants was four times the number of female respondents. The majority of participants perceived themselves as academics. In general the sample can be described as experienced and interdisciplinary. All participants have experiences, either practical or academic, in more than just one related field of research (i.e. human factors, psychology, computer science, engineering, design) for more than 3 years and the majority has at least one field of expertise with more than 10 years of experience. Broad experience can be confirmed for the participant's experience in regard to different stages of user-centred development processes, too. All participants have experiences with at least two stages of respective processes for at least 3 years.

Almost all participants have experiences in applying different stages of the user-centred development process in at least one country different from their home country. Considering Asia, the joint expertise of respondents covers the complete development process for Japan, China, Hong Kong and South Korea. For India, Singapore and Indonesia the development process is only partially covered. For Australia the complete process is also covered. Not surprisingly the country the most participants reported experience in is the U.S. Also for Mexico at least one participant has some expertise in all phases of the development process. For Canada the experts' experiences cover the development process only partially. European countries for which the whole process is covered include Germany, with the biggest share of respondents, France, Sweden and the UK.

A drawback of this survey is its small sample size. For most countries answers are provided by only one individual. Based on such a small sample statistical analysis is unthinkable. However, as all participants are considered to be internationally recognized experts in the field of user-centred product development responses can be qualitatively justified and are summarised in the following chapters.

2.6.2 The User-Centred Development Process

In parts two and three of the survey participants were to provide insights regarding two particular countries of expertise. The first was the participants' home country and the second one any other country the expert was experienced with, but preferably the one differing the most to their home country. The country chosen by most participants, either as home or as second country, was the USA, followed by Germany and China.

2.6.2.1 Issues addressed

This part commenced with some **general aspect**s of the user-centred product development process. Thereby, participants were asked questions regarding the maturity of processes applied in different countries, deviations of processes on hand from a standard process (Mayhew's Usability Engineering Lifecycle (UELC) was chosen as standard-process), and the users' feelings when participating in the development-process. Then issues related to **user-recruitment** were addressed with the objective of gathering some opinions regarding difficulties with the recruitment of users in respective countries as well as to reveal specific recruitment styles. After that, the focus was on the **analysis** phase of the

development process. Questions were aimed at the users' involvement in the analysis-stage and approaches towards analysing the users' needs. Beyond, some trends regarding the **design** phase in different countries were addressed. Thereby, participants were asked if they perceive this stage as rather object-oriented or relation-oriented and if this stage is rather creativity-driven or norm-driven. Furthermore, commonly applied **evaluation** approaches and the role evaluations play within the whole process were addressed. **Communication** within the development process for the different countries was analysed by posing questions regarding process-internal and -external communication, hierarchical levels involved within the communication process and occurring problems. The section ended with some **general questions** concerning the user-centred development process, covering the prevailing process-model, deviation of particular stages of the process from the standard-process and specific phases considered to be the most important ones within different countries.

2.6.2.2 Results

General aspects

Regarding the **maturity** of user-centred product development approaches, for Sweden, Germany, the USA and Canada experts acknowledged a rather high status with a throughout understanding of the idea of user-centeredness as well as appropriate processes in place. Countries that do not yet seem to embrace the idea of user-centeredness and also lack a process for user-centred activities are South Korea, China, Mexico, Israel and India. Compared to other Asian countries Japan seems surprisingly user-centred, suggesting that the maturity of user-centred product development seems somehow to depend on the state of IT industry as well as the economic strength of a country and not on its geographical location or cultural background (what – in international competitive markets – should not come as a surprise).

Interestingly, however, processes in Japan seem to differ more from the **standard process** than other, rather UCD-developed, countries such as Sweden or Germany. Also for Hong Kong the deviation of domestic processes from the UELC was reported to be rather high, suggesting that, even though the implementation of user-centred processes seems not to depend on cultural or geographical issues, the embodiment of processes does. Further research on the connection between economic strength, development of the IT industry and cultural issues on the implementation and embodiment of user-centred product development processes seems desirable.

Regarding the **users' feelings** during usability-testing it seems worthwhile to point out that nearly all participants agreed that user's enjoy participating in the development process with the only exceptions being Canada and Australia. At the same time, however, for most Asian countries could be confirmed that users perceive participating in the development process as a test-situation related to the feeling of stress or pressure. The only exceptions are Japan for which this proposition was rejected and China with a neutral response. However, one cannot say that this test-situation-feeling is a unique Asian phenomenon, as this proposition was not rejected for all Western countries (e.g. Germany, France, Mexico and Australia) either.

User-Recruitment

The participants' opinions regarding the difficulty of user-recruitment differed. Experts affirmed user-recruitment in China, South Korea and Japan to be a rather difficult business. Also the recruitment of sufficient and applicable participants for usability-studies seems to be a problem. For Western countries, however, the opinions regarding the difficulty of user-recruitment were more scattered. Some experts, i.e. for UK, France, Mexico and Australia, confirmed recruitment to be a rather difficult undertaking. The recruitment of sufficient qualified participants, however, does not seem to be a problem for any of them. For a better understanding of this discrepancy further research on the approaches towards user-recruitment in Asian countries (i.e. South Korea, China and Japan) as well as the demands on qualification of participants in usability tests seems necessary.

A first indication might be that especially for Asian countries (e.g. South Korea, Singapore and Hong Kong) the recruitment-style was described as more being "bring your friends, colleagues and family"-fashioned than in the west. The remaining question is whether this recruitment style is a response to the difficulty of user-recruitment in this region, or is a result of 'other' demands on the participants' qualifications.

Analysis

Regarding the scope of user involvement in the analysis phase participants' opinions differed. To trace these differences back to geographical or cultural factors does not seem possible. Also, does the amount of user involvement not seem to depend on the maturity of the user-centred development process. Particularly for China, Singapore, Hong Kong, the UK, France and Australia the user involvement was reported as low. In contrast, for South Korea and Japan, besides India, Israel, Canada and Germany, a comparatively high user-involvement was acknowledged. Further research of the reasons behind these discrepancies seems worthwhile.

Design

To cross-check stereotypical, but commonly applied findings of cross-cultural research for international user-centred product development, Nisbett's [Nis03], [Cho99] differentiated view of western, analytic-object-oriented thinking opposed to eastern holistic-relation-oriented thinking was applied to reveal the experts' opinions regarding a rather object- or relation-oriented design approach within their countries of expertise. The differentiation was that for object-oriented design the main focus would be on system parts and their attributes, while for relation-orientation the main focus would be on system-part relations. As expected, a strict tendency towards western-analytic and eastern-holistic thinking could not be generally confirmed (by experts). For example, a tendency towards relation-orientation can be found in Mexico and Canada and a tendency towards object-orientation in India and Korea. China and Japan, though, are said to favour a rather relation-oriented approach towards design what would meet cross-cultural findings. However, as all respondents have some background in cross-cultural education this statement could also be the result of a self-fulfilling prophecy. Hence, and as discussed at length before (ref. chapter 2.5.3), further research into the theoretical foundation of international user-centred product development seems necessary.

The distinction between creativity-driven and nom/guideline-driven design, also seems difficult to pin down to geographical or cultural differences. For most western countries, respondents perceived the

design stage as mainly creativity-driven. Exceptions are Germany and Switzerland which were said to be more norm/guideline-driven. Equally, Japanese and Chinese design was described as rather norm/guideline oriented. A generalization and association to some cultural factors, however, seems doubtful as for Korea rather creativity- than norm/guideline-driven design was confirmed.

Evaluation

The statement that “evaluation accompanies each step of the process” was supported for most countries. Only for Australia, Mexico and China a weak to medium rejection was reported. In general the application of heuristic methods in the evaluation stage was confirmed to prevail over analytic methods. The only exceptions are Singapore, Sweden and the UK for which the prevalence of heuristic methods was rejected or not agreed, respectively. One explanation of this bias towards the application of heuristic evaluation methods could be that those are generally cheaper, deliver faster results and are easier to apply than analytic methods [Nie92], [Nie94]. More profound judgements, however, require more in-depth research.

Communication

Communication was separated into process internal and external communication. Regarding process internal communication especially in Korea, Switzerland and Singapore but also in Japan, France, Mexico, Canada and Australia communication was acknowledge to happen across many hierarchical levels causing communication-problems at the interfaces.

Process external communication was agreed to happen through multiple channels for nearly all countries. Only for Japan, Sweden and Germany this statement was not explicitly confirmed, but not rejected either. For most countries the person in charge of the whole project usually resides on a higher level than usability-experts. Even though, in most cases the direct communication with this person in charge does not seem to be a problem and is generally possible, especially for South Korea and China, but also for Switzerland, Hong Kong, the UK and Canada, experts agreed that this hierarchical gap seems to cause some communication problems.

Deviation from the standard process (UELC)

Finally experts were asked to rate the different stages of local user-centred development processes according to their deviation from the standard process (UELC). Most experts affirmed the initial user/task analysis to be the phase differing the most from the standard process, followed by the design phase. This suggests that the early stages of development processes that can be assigned to the PLM’s phases of conceive and design differ more from the standard process, than follow-up phases associated to realization and service. One presumption for this tendency could be that the less structured but nonetheless extensive user-engagement within initial development stages, necessitate the consideration of nation-specific premises more than rather structured follow-up stages with less user-engagement. In result early phases of the PLM differ more from standard-phases across nations. Profound reasoning, however, requires further research. Responses per country are summarized in the table below.

Table 2.3: Development phases differing the most from standard process phases

Country	Rank 1	Rank 2	Rank 3
Australia	• User/Task Analysis	• ./.	• ./.
China (N=3)	• Design • User/Task Analysis • Feasibility/Product Concept	• Testing/Evaluation • requirements	• Implementation • Design
France	• User/Task Analysis	• Conceptualization	• Design
Germany (N=2)	• Conceptualization • Ethnographic research	• User/Task Analysis • User/Task Analysis	• Design • Implementation
Hong Kong	• User/Task Analysis	• Conceptualization	• Design
Japan	• User/Task Analysis	• Conceptualization	• ./.
Mexico	• Ethnographic research	• User/Task Analysis	• Implementation
Sweden	• Conceptualization	• Design	• User/Task Analysis
Switzerland	• User/Task Analysis	• Conceptualization	• Design
UK	• User/Task Analysis	• Design	• Implementation
USA (N=3)	• Design • User/Task Analysis • User/Task Analysis	• Conceptualization • Conceptualization • Conceptualization	• User/Task Analysis • Design

Importance of different process-stages

When asked to rank the importance of different user-centred product development stages, generally experts rated the stage of user/task analysis as the most important one, followed by implementation and conceptualization. Design and testing/evaluation received less attention. Responses for each country are summarized in Table 2.4 below.

Table 2.4: Importance of different process-stages

Country	Rank 1	Rank 2	Rank 3
Australia (N=2)	• Conceptualization • Requirements	• Usability Testing	• Design
China (N=3)	• User/Task Analysis • User/Task Analysis • Requirements	• Testing/Evaluation • Usability Testing	• Design • Design
France	• User/Task Analysis	• Conceptualization	• Testing/Evaluation
Germany (N=4)	• User/Task Analysis • User/Task Analysis • Design • Conceptualization	• Conceptualization • Conceptualization • Testing/Evaluation • User/Task Analysis	• Design • Testing/Evaluation • User/Task Analysis • Design
Hong Kong	• User/Task Analysis	• Testing/Evaluation	• Design
India	• User/Task Analysis	• Testing/Evaluation	•
Israel	• Implementation	• Testing/Evaluation	• Conceptualization
Japan	• Implementation	• Design	• Conceptualization
Mexico	• Design	• Testing/Evaluation	• User/Task Analysis
Singapore	• Testing/Evaluation	• User/Task Analysis	• Design
South Korea	• Implementation	• Testing/Evaluation	• Conceptualization
Sweden	• Conceptualization	• User/Task Analysis	• Design
Switzerland	• Implementation	• Testing/Evaluation	• Design
UK	• Conceptualization	• Design	• Implementation
USA (N=4)	• Implementation • User/Task Analysis • Implementation • Conceptualization	• Design • Conceptualization • Design • Design	• Testing/Evaluation • Design • User/Task Analysis • Testing/Evaluation

Process Type

Most respondents described the type of the user-centred development processes as either linear or cyclic. A correlation between nation and process-type, however, cannot be confirmed, what should not come as a surprise, as process-types probably rather depend on company and institution than on country.

2.6.3 Usability Methods

2.6.3.1 Issues addressed

The second part of this survey evolved around methodological implications of international user-centred product development. Within this part, participants were first asked to **rate different usability methods**, from card sorting, over group discussion to expert interviews regarding their applicability in different countries. Then experts were to rank their **top three** analysis and evaluation methods, their top three reasons for **failure** in cross-cultural projects as well as their top three **advices** for being prepared for cross-cultural product development projects and their top three user-traits for their home country and a second country of expertise.

Follow-up issues addressed **single-user** and **group methods** separately. Therefore, statements regarding user/group-system, user/group-observer/moderator interaction as well as group internal interaction were provided, which experts had to rate on a five point Likert-scale.

Finally experts were asked supplementary questions regarding the general context of **applying usability methods abroad**.

2.6.3.2 Results

Rating usability methods

Due to the low response rate – for many countries responses were based on only one expert – a direct comparison of the applicability of different usability methods is not possible based on this initial survey. Responses are to be understood as one expert's opinion based on his/her personal experience. Comparisons will be waived here, but can be found in Appendix B.

Failures and advices

When asked about top three reasons for failures of international development projects experts mainly pointed out a lack of understanding about the target culture's user, insufficient financial support and tight time schedules. Beyond, problems related to communication and ethnocentric dispositions of developers seem to be prominent causes of project failure. Consequently the experts' top advices for being prepared for international product development refer to avoiding ethnocentric biases, to be aware of the importance of human factors, i.e. to know the user of the target market, to get the management to buy in and to allow for an appropriate time schedule.

Single Person Methods

Considering the interaction between the user and the system (referred to as **person-system interaction**) experts' confirmed a rather cautious and shy interaction style particularly for far eastern

countries, such as Japan, Korea, China, Singapore and Hong Kong. For most western countries this interaction style could not be confirmed, neither for India or Israel. However, not for all western countries, i.e. Switzerland and Mexico, a cautious and shy interaction style could be rejected, proving once more that care needs to be taken when generalizing finding across larger cultural regions.

For almost all countries experts agreed that person system interaction was mainly driven by the aim of success. Only for India this statement could not be confirmed. Even though this survey does not allow a detailed comparison of the degree of confirmation of statements, it can be generalized that the strength of confirmation for success oriented interaction differed between nations. While for Japan, Switzerland and the USA only moderate confirmation could be given, for most other Western countries this confirmation was stronger. Also for some Asian countries, i.e. South Korea and Singapore, the confirmation is extremely strong, however based on only one respondent in each case. Interestingly, even though a similar main-driver of interaction, i.e. success, was agreed upon across nations, the way how is dealt with failed interaction seems to differ between East and West. While for most Asian countries failed interaction seems to be associated with shame (or loss of face), this could not be confirmed for most western countries.

Responses regarding the users' abilities of speaking out aloud what s/he is thinking differed across nations, however, not unambiguously distinguishable between East and West. While for most Asian countries, except for Japan, experts confirmed that users have difficulties speaking out aloud what they are thinking, a uniform answering trend for western countries could not be confirmed. For some countries, i.e. France, Mexico and Canada, experts attested the same problems as for Asian countries, while for others, i.e. Sweden, Australia and Germany, this was not confirmed.

The statement that "individuals enjoy playing around with the system to discover its functions" most experts could confirm. A clear connection between playing with the system and the larger cultural background was not found. Countries for which experts rejected a rather playful discovery of the system are Germany, Switzerland and particularly Sweden.

Regarding the interaction between user and researcher (referred to as **person-observer/moderator interaction**) experts were first asked to rate the effect of the researcher's nationality on the user's feeling of comfort. While for Sweden, Switzerland, Australia and Germany experts could not confirm users to feel more comfortable with the researchers from the same nationality, the researchers nationality seems to play a more important role in Asian countries; particularly in Japan, Korea, Singapore and China. But also for some Western countries, such as France and Canada, participants confirmed this tendency. Except for Hong Kong and the UK the tendency of users trying to impress the researcher could not be rejected. Particularly for South Korea, Japan and Australia experts agreed fairly strong to this statement, followed by Canada, France, Singapore and China.

A uniform response to the statement that "extreme findings are rather harmonized by individuals" could be confirmed. Rather straight-forward users are reported for Sweden, Switzerland, Canada, the USA and also for Germany. Most Asian users, however, are reported to respond in a more harmonizing ways. The only exception here is Korea, for which this statement could not be explicitly confirmed (however not rejected either).

Regarding the user's ability of communicating thoughts in a structured and organized manner, for all Eastern countries – except for Japan – experts acknowledged the user to have some difficulty with that. For Western countries such a universal tendency could be confirmed. While for some countries, i.e. Switzerland, Sweden and Canada, difficulties in communication were rejected, for all other countries this statement was neither rejected nor confirmed. Interestingly for Japan this statement was rejected, too.

Group Methods

Regarding group methods experts first were given statements about **group internal interactions** among participants. Particularly for Japan, Singapore and China, but also for Switzerland, experts agreed that disagreements within the group not to be openly discussed. For all other countries experts acknowledged an open discussion of disagreements or at least did not explicitly reject this statement. Hence, the importance of fun and joy of group work to achieve valuable results was confirmed for most countries. Reported countries for which the fun of work was not reported to influence the value of outcomes were Germany, Switzerland and especially Korea.

Considering gender-effects on group work results, the experts' responses differed more. Especially for France, Sweden, Switzerland and the UK experts did not agree that other results of group work would be achieved if group members are all from the same gender. Opposed to this proposition for most Asian countries, i.e. Korea, Hong Kong, China, India and Japan, gender-effects could be confirmed. However, also for Germany, Israel and Mexico effects were widely acknowledged.

Similar tendencies can be observed regarding the experts' opinions of effects different hierarchical levels of group members have on achieved results. Again, for France, Sweden, Switzerland and the UK experts did not agree that other results of group work would be achieved if group members are all from the same hierarchical level. Interestingly, for Singapore this statement was also rejected. For most Asian countries (i.e. Korea, Hong Kong, China, India and Japan) as well as for some Western countries (i.e. Israel, Mexico, Germany, but also Canada and the U.S.) this statement was confirmed. The statement that "power is evenly distributed within the group" was rejected by most experts for most countries. Only, for Hong Kong, Sweden, Canada and Australia this statement was confirmed; for all other countries, except for Israel, Singapore and the UK, for which responses were neutral, the statement was rejected. When asked, whether hierarchy determines the distribution of power within the group, experts' could confirm this statement particularly for Asian countries, i.e. Japan, South Korea, China, Hong Kong and India, but also for Switzerland and Mexico. Interestingly, effects of hierarchy on power distribution could not be confirmed for Singapore, the U.K., France and Canada. Alternative factors reported influencing power distribution were competence for Germany, expert knowledge for Canada as well as the combination of hierarchy and expertise in the case of India. That hierarchy and power-distribution filter true criticism and findings of group members, though, was particularly confirmed for Japan, China, Hong Kong, India and Mexico. For Israel, Sweden, France and Canada this statement could not be supported.

Questions regarding the **interaction** of the **group** with the **system** were in alignment with questions regarding single person methods supplemented by group-specific factors. The first question related to who is interacting with the system, i.e. the whole group or one outstanding individual. Particularly for

Japan, China and Hong Kong, but also for Mexico, Canada, Australia and the U.S. experts agreed that manly one individual of the group is interacting with the system, while others refrain from doing so. Only for Germany and Sweden a slight to medium rejection of this tendency can be reported. When asked if "skill determines who is interacting with the system", most experts for most countries agreed. Only for the U.K. skill as the determining factor was rejected. For Sweden, Germany, India and Mexico this statement was neither agreed nor rejected. A rather cautious and shy interaction style of the group with the system was only confirmed for Japan, China, Hong Kong and Germany. For all other countries this statement was rather rejected or not confirmed. As an alternative interaction style for Canada at least one expert acknowledged a "fairly open" interaction style. For almost all countries experts agreed that "the group enjoys 'playing around' with the system to discover its functions". However, for China the rate of agreement was comparatively low and for Japan, India, Switzerland and France experts neither confirmed, nor rejected this statement.

That time constraints do significantly reduce successful interaction was agreed upon by nearly all experts. Only for the U.K. Switzerland, Israel and Sweden the effect of time constraints was not explicitly agreed upon. Also the fact, that interaction is mainly driven with the aim of success was supported by almost all experts for almost all countries. Especially for Asian countries, but also for Mexico, experts agreed that failed interaction is considered as a shame, while they rejected this perception of failed interaction for most Western countries.

Regarding the interaction between the user and the researcher (referred to as **group-observer/moderator interaction**) experts agreed that the researcher's nationality seems to play a less important role in group methods than in single-user methods. In consequence, on top of Sweden and Switzerland, for which nationality effects were already rejected for single-user methods, also for France and Singapore this effect was not acknowledged. However, in regard to Japan, China and Hong Kong, but also for Israel and Canada, experts agreed that group members feel more comfortable when the observer has the same nationality. For South Korea this question has not been answered. The statement that group members are trying to impress/satisfy the observer was confirmed for all countries, except for the U.K. and Sweden for which this statement was rejected, as well as Germany and Switzerland, for which this statement was neither rejected nor confirmed.

Regarding the group members' ability to communicate their thoughts in a structured and organized manner, experts acknowledged some difficulties particularly for Singapore, Hong Kong and China, but also for France and Israel. Problems regarding the communication of thoughts, could not be confirmed for most Western countries as well as Japan as the only Asian country.

Method application

No expert for any country rejected the need for **warm-up sessions to get to know each other** in order to receive trustworthy results. Based on the small sample size it cannot be said that there is a stronger need for familiarization prior to conducting usability-methods in some countries than in others. However, countries for which the need for warm-up sessions was not explicitly confirmed are South Korean, Israel, the U.K., Germany and Australia. For all other countries the explicit conformation by experts was comparatively strong, especially for Japan, China, India and Canada.

Regarding **humour and fun of testing** as a prerequisite for success answers differed more. While for some countries, i.e. South Korea, Israel, France and Australia, humour and fun as success factors were rejected, for all other countries this effect was confirmed.

2.6.4 Implications

The primarily objective of this survey was to explore experiences made and major challenges perceived by experts in the field of user-centred product development for development endeavours in an international context to guide follow-up research and to reveal procedural and methodological deviations across nations. In conclusion this study holds at least four **relevant insights** around which this overall research evolves.

First, research into the international perspective of user-centred product development is still in its infancy in regard to both, procedural as well as methodological, foundations. Second, the survey strongly suggests that international endeavours of user-centred product development necessitate a bit more than the application of best practices of country A in country B, as therefore findings prove differences in procedural embodiments as well as methodological implications across nations being by far too large. In consequence, procedural and methodological adjustments of established best practices must be seen as a prerequisite for successful international user-centred product development. Third, this survey provides another evidence for the incapability of cross-cultural theories to add value to user-centred product development. Findings clearly prove commonly applied cultural dimensions assigning Eastern vs. Western nations to distinct clusters to be far too simplistic for predicting or explaining procedural or methodological implications of international user-centred product development. Last but not least, throughout this study experts' acknowledge the importance of considering and understanding user premises of distinct locales as the critical success factor and significant challenge of international user-centred product development.

This conducted survey revealed various open questions and further untouched fields of research related to international user-centred product development. Some of these issues related to methodological impacts of cross-cultural user-centred product development are to be addressed by the research on hand. The purpose of this study will be clearly confined within the following chapters.

3 Purpose of this study

3.1 Defining the problem space

Increasing functionality and complexity of products paired with ever intensifying competitive pressure necessitate corporations to innovate at an always higher pace and to better align products with the user's premises, needs and wants. Previous remarks showed how user-centred product development and early user integration can effectively serve this purpose and sketched the methodological as well as procedural implications of different approaches towards user-integration. Furthermore was discussed how globalization more and more requires the same high standards for product development worldwide to ensure product successes in distinct markets abroad.

The mainstream of user-centred product development approaches, comprising processes, activities and methodologies traditionally originate from the US, the UK and northern Europe including the Netherlands and Germany, but are, as international markets are gaining importance, increasingly extended to markets abroad without undergoing major adaptation procedures to special local premises. Inter-cultural differences and distinct contextual systems, though, strongly suggest that the mere transfer of approaches working efficiently and effectively within one user-centred product development system, do not necessarily achieve the same qualities in another system, for which two major components, i.e. the human and the context, have two very different characteristics compared to the two corresponding components of the original system. Recalling the system thinking perspective constituting complex systems to be highly interwoven and to be smoothly aligned with each other to ensure the sound functioning of the overall system, it should become clear that for successful international user-centred product development the adaptation of processes and methodologies to local premises is a prerequisite for success.

Despite research into procedural adaptations of user-centred product development approaches to conditions and requirements of distinct markets seems to be a highly relevant and fruitful research area, the focus of this study will be on **methodological adjustments**. The ratio behind this choice is that methodological implications seem to less depend on the organizational context than procedural advancements do. Findings, therefore, can be expected to be more generalizable and, thus, to have a larger impact. In consequence, this work deals with effects of distinct markets characteristics on the application of user-centred methodologies and how their applicability can be enhanced.

3.2 Goals of this research

The primary goal of this research is to methodologically advance cross-cultural user-centred product development approaches.

Therefore a theoretical framework for clearly **defining method applicability** and influencing factors is to be developed. From this theoretical foundation, factors influencing method applicability are to derive and to link to situational influences at work when applying a methodology in different contextual systems. Thus, one major objective is the establishment of an abstract and generalizable framework of user-centred method applicability comprising influencing components, their characteristics and interrelations. Despite the framework's generalizability it shall be mainly utilized within this research for investigating method application across cultures.

Based on this preliminary work and in coherence with the concepts of product internationalization and localization, another objective pursued with this research is the development of an **approach for the internationalization and localization of user-centred methodologies**. This approach shall enable and support efforts for aligning methodologies to distinct locales' needs and therefore contributes to method applicability across locations, situations and cultures.

Last, but not least another sub-goal pursued with this research is the generation of new knowledge regarding the application of user-centred methodologies across-cultures. Particularly effects of cultural orientations of participating individuals, individual dispositions and method characteristics on the applicability of user-centred product development methodologies across national cultures shall be scrutinized within this research.

3.3 Approach

In the following chapter 4 a sound standing framework for analysing the applicability of user-centred methodologies will be developed. This necessitates the establishment of a theoretical foundation of this framework which shall be activity theory. Based on this foundation components determining method applicability will be introduced and discussed. How these components are constructed and reciprocally construct the contextual system of method application, then will be analysed in detail in order to derive implications for user-centred method application across cultures from that.

Based on this preliminary work an approach for method localization will be introduced in chapter 5. Therefore, this research first will briefly venture into the foundations necessitated for methodological internationalization. Then the theoretical foundations of method localization will be laid before developing an approach and introducing a process for aligning abstract method characteristics with premises of users from distinct locales.

In chapter 6, an extensive empirical study conducted between June and December 2007 analysing the applicability of distinct user-centred methodologies in China, Korea and Germany will be summarized, providing strong evidence and valuable new insights for the localization of user-centred methodologies. For enabling the differentiated and in-depth examination of respective influences individual, cultural and methodological effects will be analysed separately.

This treatise will conclude with a critical appraisal of new insights and approaches as a result of conducted research. Finally, promising directions of further research will be highlighted.

4 A framework for analysing the applicability of user-centred methodologies

In the previous chapters different stages and philosophies for the early integration of end-users into the product development process were summarized and broad methodological implications were derived from that. Primary objective of this research is to develop a framework for cross-cultural user-centred method application. Therefore, factors affecting method applicability are to elicit and to understand. Unfortunately, most literature on user-centred methodologies merely introduces various methods, in a more or less structured manner, without differentiating them based on abstract traits that would support this endeavour. For the systematic analysis of user-centred methodologies some preliminary work in terms of theoretical foundation on which such a framework can be built on combined with a clarification of applied terminology seems necessary. Based on such a framework, factors influencing the general research object, i.e. method applicability, are to identify in order to enable follow-up analysis to scrutinize specific factors, i.e. cross-cultural method applicability.

4.1 Theoretical back-ground and clarification of terminology

The value of **activity theory** (AT) for user-centred product development seems widely accepted since its first introduction to HCI in the early 90s [Ban92] and shall serve as the theoretical foundation for analysing the applicability of user-centred activities within this framework. Instead of a throughout and detailed introduction into AT (for further readings ref. [Kap95], [Nar01]), basic principles shall be highlighted and their value for the development of a framework for analysing the applicability of user-centred activities discussed.

In AT the basic unit of analysis are activities. Activities are human actions including the minimum of meaningful context in order to make sense of these actions. The inclusion of the context is a requirement as both, activity and context reciprocally affect each other, and thus any human action can only be understood in context. The context of an activity will at least involve a subject, a more or less tangible object, which can be as tangible as a physical object or as intangible as an idea, and a tool that mediates between subject and object, but can also encompass broader aspects of the physical and social environment of object and subject. Between each element of the activity stands one or more tools (also referred to as artefacts [Kuu01]) that can be instruments, signs, laws, norms, or machines which mediate between them. Finally any activity is driven by a motive or object[5] that is to satisfy.

Activities are pursued by performing a set of actions. Each action can be considered as a closed unit in itself that serves a specific goal, which in turn serves the overall motive. Some of those actions are

[5] Unfortunately the English language makes it impossible to differentiate between the ‘object’ in terms of an artefact or a less tangible thing and the ‘object’ in terms of an intent or motive without considering the context. For the sake of clear nomenclature the first kind of object will hereinafter referred to as ‘object’, while for the latter ‘motive’ will be used as a synonym.

subordinated, and some are parallel to others. Consequently activities can be subdivided into a hierarchical network of actions. Moving down this hierarchy of actions sooner or later the threshold between conscious and automated processes is passed. The latter do not have goals in themselves but are constrained through certain conditions. In AT terminology these structures are called operations. Thus, motives, subjects, objects, tools, contexts, actions and operations are the components of any human activity.

Beyond, AT acknowledges that activities are dynamic constructs that continuously change and develop. First, each activity and each part of an activity has a history of its own. Consequently a historical perspective on the activity or certain parts of it often is required to understand its current situation. The second dynamic perspective AT offers is the mobility of activities, actions and operations. Certain processes might start as actions, but turn into operations with enough practice. At the same time the goal of an action might become the motive of a new activity or a current activity might lose its motive and become an action subset to another activity.

For the research on hand, AT serves as a valuable frame for clearly determining the unit of analysis by applying the concept of an activity to user-centred product development activities. According to this, the subject of user-centred activities can be understood as the group of developers, investigators or other agents initiating a respective activity through which they pursue a certain motive, e.g. the analysis of prospective users' cognitive premises. Depending on this motive, the object of the activity can be users, contexts of use or any kind of artefacts. The tools applied by the subject to manipulate the object within this research are user-centred methodologies. All three components, i.e. researcher, user and user-centred methodologies, are embedded in some kind of context, which, in accordance to the context of use, comprises technical, organizational, political and social context. These components clearly define the unit of analysis for investigating the applicability of different user-centred methodologies (ref. Figure 4.1). Thereby the applicability of a user-centred method is determined by the method's strength in contributing to the activity's motive. Factors determining this strength will be discussed below.

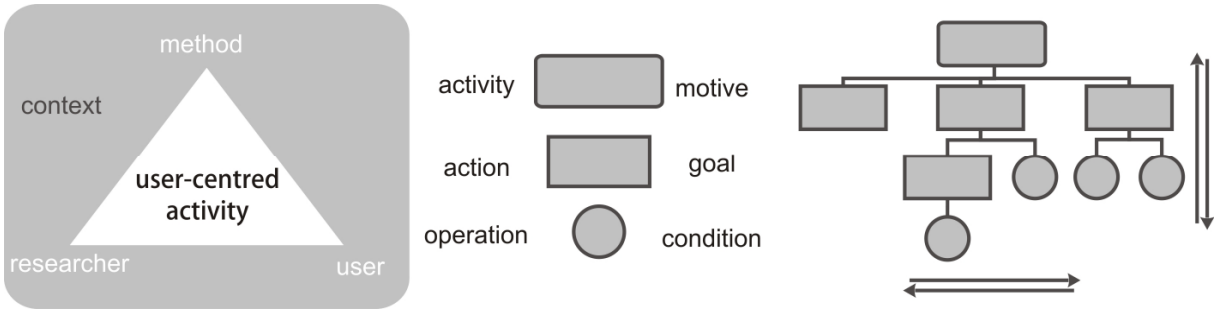


Figure 4.1: Unit of Analysis

4.2 Determining method applicability

By and large the applicability of a method is determined by three components, i.e. the motive of application, characteristics of the respective method and the application's outcome (ref. Figure 4.2). As discussed, any activity within user-centred product development endeavours follows a certain **motive**. This motive is not at last determined by the phase of the development-process in which different

problems and issues are to be addressed, which in turn lead to specific goals of actions taken. For ecample, within the fuzzy front-end primary motives could be the development of new ideas, or the elicitation of general user needs. Within later stages of the development process primary motives of user-centred activities could be to test early prototypes or to verify assumptions made. Therefore, motives of user-centred activities can differ significantly and not all user-centred methodologies differing in their method **characteristics**, will contribute to their fulfilment equally well. A method's *feasibility* for fulfilling a certain motive as pursued by any user-centred activity, is determined by the alignment of this method's characteristics with the activity's motive and associated actions' goals. At the same time, method characteristics strongly determine results that can be obtained by the application of a respective method. For example interviews are unlikely to produce highly quantifiable results, and closed questionnaires are not able to generate new ideas. Thus, the *efficacy* of obtaining a specific **outcome** is determined by the characteristics of a method. Obtained outcomes, however, are not to be seen in isolation. Outcomes or results of method-application are merely a means for contributing to motives pursued. The knowledge about mental models, for incidence, is merely a means for developing new products that fit the users' understanding of reality. However, not all obtained results are equally useful for supporting any motive. Depending on outcome qualities, e.g. type of data, information attributes, or granularity of obtained results, the *utility* of method-application outcomes for motive-satisfaction differs. In consequence, a reasonable framework for analysing the applicability of different user-centred methodologies can be build around the three components motive, characteristics and outcome, and respective mutual effects determining feasibility, efficacy and utility of method application.

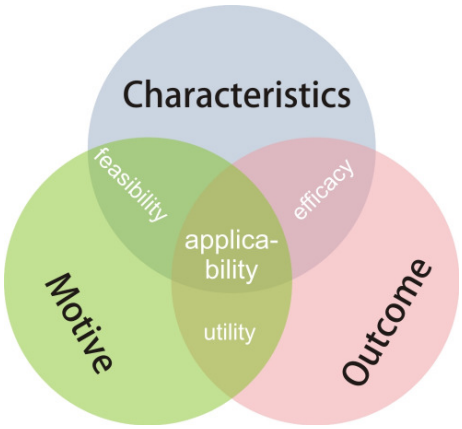


Figure 4.2: Motive, Characteristic and Outcome of Method-Application

In practice, the motive with respective goals which necessitate certain outcome qualities will determine the choice of user-centred methodologies to apply depending on method-characteristics. For the research on hand, however, it seems reasonable to further differentiate these major components determining method applicability in order to identify points from where the international application of user-centred methodologies can exert influence on their applicability.

Motive

A detailed overview of this triple determining user-centred method applicability and constituting features is given in Figure 4.3. It was already pointed out that the **motive** pursued with the application of user-centred methodologies largely depends on the place and time of the development process in

which the activity takes place. Besides the phase of the innovation process, i.e. fuzzy front-end, new product development and customization, user-centred methodologies can play an important role for the development of upgrades or revisions of products, processes and services. Application-goals are the second major component of a motive. Roughly one can differentiate goals of user-centred activities into creating, eliciting or testing something. Even though different goals have a different share within the respective stages of the development process, e.g. testing seems to have a larger stake within reviews and upgrades than within the fuzzy front-end, they are nonetheless a constituting part of any stage of product development as ideas and concepts are to be verified as much as prototypes are to be tested before implementing them. Beyond, the motive usually is constrained by various factors. Those can be set by the qualification of personnel employed within the activity which constrains the complexity of activities that can be successfully executed, by time constraints that make the choice of lengthy user-centred activities not feasible, rules and laws to adhere to or by the budget available. This analysis suggests that factors affecting the motive pursued by the application of user-centred methodologies can mainly be attributed to the organizational environment. Staffing, organizational structure, process organization and finance strongly determine constraints, as well as problems on hand. Development approaches applied set primary goals, and the development stage itself determines place and time in which the activity takes place.

Outcome

The **outcome** of a user-centred activity is mainly constituted by data gained, the quality of generated solutions as well as the granularity of obtained findings. In terms of granularity one can differentiate between fine outcomes that allow drawing a detailed and low-level picture of the problem-space and coarse outcomes in which fine-grained details are smoothed out. Hence, the quality of solutions developed in terms of relevance and effectiveness, novelty, elegance and generalizability as defined above (ref. chapter 2.4.2.1) strongly determines outcome utility. In most cases the outcome of any user-centred methodology will be some kind of data. Thus, the type of collected data significantly determines the method's outcome. Data can be differentiated in many ways and is divided here into information content, expression, divisibility and data collection. While the information content differentiates between qualitative and quantitative data collected, expression refers to different states collected variables can take, which can be either discrete, i.e. the variable is limited to some specific values, or continuous, i.e. the variable can have any value on a continuum. Data divisibility addresses limitations of data processing due to characteristics of measured variables. Thereby, intensive data, e.g. colour, ratio, or material, does not change if it is mathematically appropriately processed, while extensive data, e.g. weight, length, or area, changes if it is processed. Finally, data collection differentiates between direct ways, e.g. measuring a person's height with a metering rule, and indirect ways of obtaining desired insights, e.g. measuring a countries wealth via its GDP. Factors influencing these components can be primarily assigned to characteristics of user-centred methodologies applied as well as the object analysed.

Characteristics

Based on an extensive review of various user-centred methodologies constituting components of a method's **characteristics** were abstracted. By and large traits on which methods differ can be

attributed to the components creativeness, interactivity, motivation and conceptual basis. The conceptual basis can be understood as some kind of meta-component that determines the basic approach for data-collection based on generic analysis methodologies, i.e. interview, self-report, artefact-analysis and observation (ref. 2.4.2.2). Most user-centred methodologies are a combination of generic methodologies. Features based on which those methods differ can be summarize by the factors creativeness, interactivity and motivation. Derived from the commonly applied definition of creativity [Tor66], [Gui67], the component creativeness is constituted of the originality, fluency of ideas and flexibility of thoughts a method allows. Motivational qualities of a user-centred methodology can be attributed to extrinsic or intrinsic components of the task associated with it [Ama94]. For the user, as the primary source of information within user-centred methodologies, motivational aspects play an important role and strongly determine the pains s/he is willing to take during participation. Based on their design some methods comprise rather internal and others rather external features stimulating the user. Whereas, internal features can be associated to factors that potentially motivate participating users intrinsically, i.e. as a result of the method itself, external features relate to factors potentially motivating the user from the outside, i.e motivation as a response to something apart from the method itself. The scope and object of interaction of user-centred activities can serve as another component based on which various methodologies can be differentiated. Thereby, users can either interact with some kind of artefact, with members of a group, or with the investigator executing the method. Obviously method-characteristics are method-intrinsic and defined by its design. In accordance to remarks made above, user-centred methodologies can be understood as the tools of user-centred activities that are applied to respective research objects in order to satisfy specific motives. Premises of the user as the primary research object significantly affect the feasible scope of creativeness and interactivity as well as a preferable motivational orientation of a user-centred methodology. Thus factors determining the applicability of user-centred methodologies due to effects of method characteristics are most likely to be found within the complex systems human and the social context.

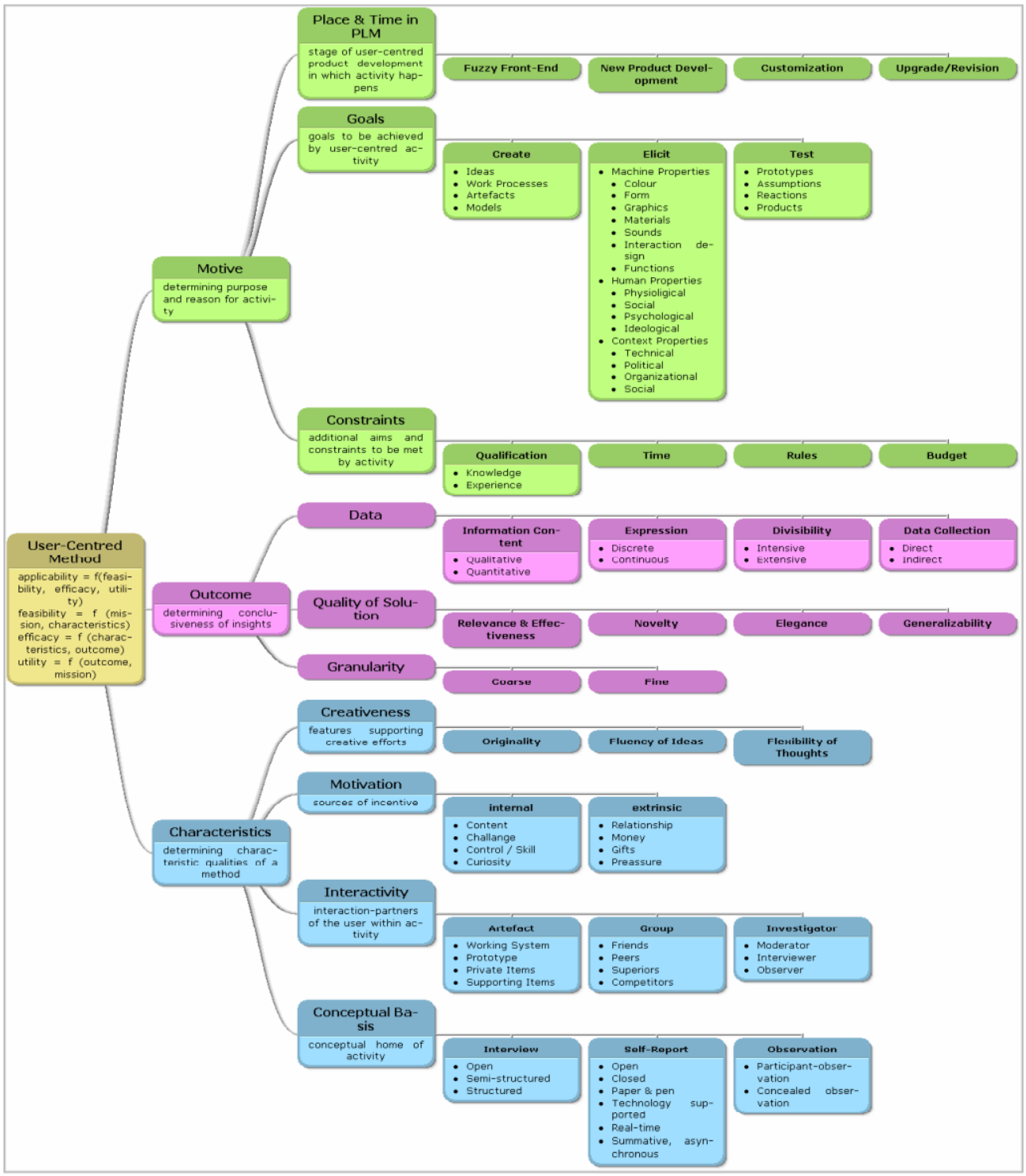


Figure 4.3: Framework of User-Centred Methodologies Application

4.3 The activity system of user-centre methodology application

Discussions above clearly show that the applicability of any user-centred methodology is determined by the feasibility of method characteristics for pursuing specific motives and by those characteristics efficacy of producing outcomes with high utility for satisfying respective motives. Within user-centred activities motives are initiated by the researcher, developer or designer, i.e. the subject, and usually are directed towards the user or the context as primary research-objects. In accordance to AT user-

centred methodologies mediate between subject and object. Hence, the analysis of components determining method-applicability of chapter 4.2 revealed that, besides a method's characteristics, influencing factors can by and large be attributed to the organizational and social context. Together, all those components form a complex system and are highly dynamic in themselves as well as in their connection to each other. To analyse such a system the concept of **activity systems**, also known as the second generation of activity theory, as introduced by Leont'ev [Leo81] and depicted by Engström [Eng87] seems to be a highly applicable construct. Based on the fundamental differentiation between individual and collective action, this model enables the connection of individual subjects and objects via any tool constraint by factors of the social and organizational environment. In Figure 4.4 the activity system of user-centred methodology application (**ASUCMA**) is depicted which shall serve as the framework for analysing the applicability of user-centred methodologies.

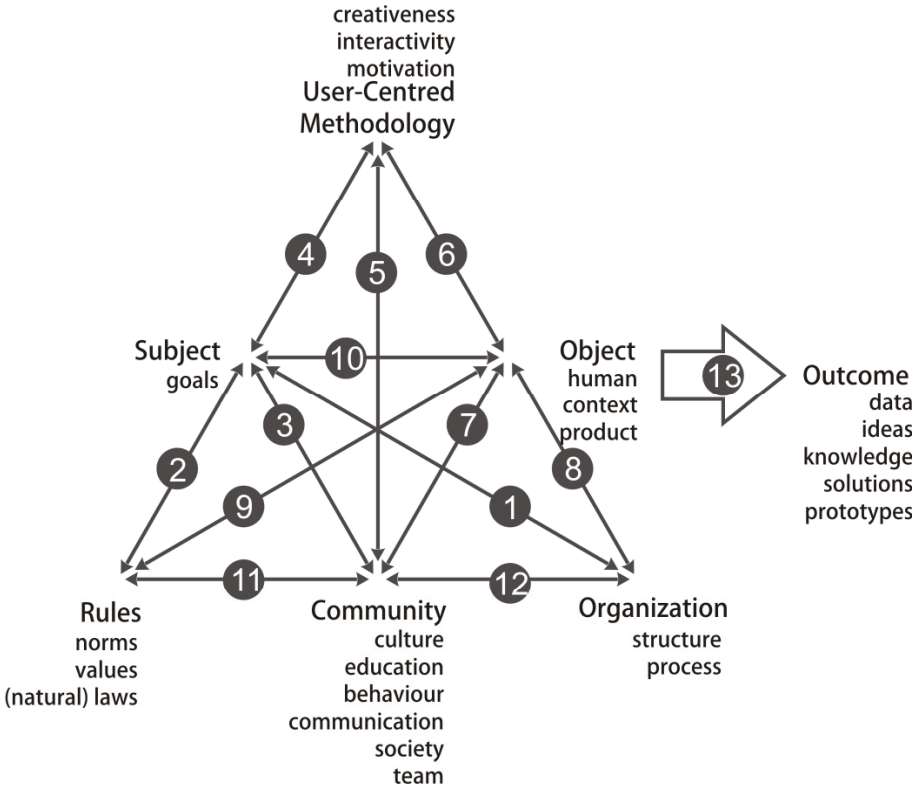


Figure 4.4: The Activity System of User-Centred Methodology Application (based on [Eng87])

The ASUCMA consists of six system components, their interrelations and the activity's outcome:

1. User-centred activities as part of a user-centred product development process are usually applied within organizations. As already discussed, organizational structure strongly determines who is in charge of planning, executing and analysing user-centred activities. Thus, organizational structure usually defines the subject of a respective activity. It seems worth mentioning, that planning, executing and analysing can be seen as separate activities and consequently are not necessarily conducted by the same subject. Process-organization determines place and time of the PLM in which the activity happens and thus strongly determines the activities motives and the subject's goals. At the same time, an organization, its structure and processes is determined by different subjects, so that the connection between organization and subject is bidirectional.

2 The subject executing the user-centred activity adheres to various rules constraining possible actions and thus pursued goals. Those rules can be of legal nature, i.e. laws, or personal values as much as norms and ethical considerations to be made when planning and executing user-centred activities. Values, as rather intrinsic norms already suggest that this connection, too, cannot be understood merely unidirectional, as subjects actively construct rules as much as they are constraints by them. Hence, depending on the situation, subjects will not always adhere to all rules but chose the ones that seem reasonable to maintain.

3 Beyond, the subject always belongs to a community with a certain culture, attitude and education, which shapes behaviour and communication styles. This community can be understood as broad as the society the subject lives in but also as specific as the development team the subject works with. Obviously the community itself as well as it's characteristics is not at least formed by the subject.

4 All those components, organization, rules and community, with their respective features determines the subject's goals and thus the choice of feasible user-centred methodologies.

5 In general tools available for an activity are generated and structured by the community. Thus, the available pool of tools from which the respective methodology can be chosen largely is constrained by the community's conditions and characteristics of it are historically engrained into the tools' features. At the same time, however, available tools, i.e. known and applied user-centred methodologies, shape practices of the community what again makes the bidirectional connection between both components reasonable.

6 The choice about feasible user-centred methodologies to analyse the research object is, of course, strongly influenced by the type of object and the characteristics to analyse, which in turn are determined by the subject's goals 10. Hence, method characteristics determining the scope and kind of engagement of the object significantly influence the efficacy of the method in regard to the generation of expected outcomes 13.

7 Just like the subject, the object must be seen in context, that is as a part of its community. A human, for example, can belong to various social entities, such as family, sports club or work force, which shape his/her characteristics and conditions. From an abstract systems perspective, the community-concept can be transferred to contexts and products, too. For products the technical context and system components can be understood as entities that shape the products characteristics, equally to a community. Hence, the nested and interrelated nature of contexts as complex systems makes their mutual influence obvious. So is the context of work, for incidence, influenced and constrained through various other work contexts in an organization, thus represent an equivalent to the community-concept.

8 As discussed at length above (ref. chapter 2.4.2) place and time within the user-centred product development process as well as the mind-set and objective of user-integration determine the role the user as the primary research object plays within user-centred activities. At the same time, the development process, mind-set and objectives of user-integration are strongly determined by the organization. Depending on role, certain user-characteristics represent a more or less influential

factor regarding their feasibility for goal achievement. Beside this rather abstract influence, process organization directly determines the stages of product development in which respective research objects, e.g. humans, contexts or products, are to engage and finance constraints the budget available for these engagements. Hence, different research objects obviously necessitate the adaptation of budgets, processes and structures.

9 Equivalent to the subject, the research object adheres to certain rules.

10 The goals of actions taken by the subject are conditioned by the overall motive of the activity and therefore imply components of the expected outcome that are to meet. These components, i.e. highly quantifiable data, new knowledge or ideas, thus constrain characteristics of objects on which actions are applied. Thus goals pursued by the subject clearly determine the choice of research objects. Due to the dynamic nature of motives and goals, the actual expression of object-traits reciprocally influences the subject's goals.

11 Any community appreciates and fosters certain rules that organize its smooth function and the interaction among members of that community as well as with other communities. The formation, adaptation and implementation of respective rules must be understood as a dynamic bidirectional process. Depending on the type of community as differentiated under 7 those rules can be primarily understood as individual values, group norms, texts of law or natural laws.

12 At the same time, any community has a certain structure in terms of hierarchy and power-distribution as well as respective roles community members are to play, e.g. division of labour. Beyond, different processes and practices are nurtured and accepted by different communities. Any community also has an organization and is strongly shaped by that. The organization itself, however, is not self-sustaining and fixed, but established and continuously rebuild by the community.

13 The purpose or motive of any user-centred activity is to generate some kind of outcome. This can be data, knowledge, new ideas, etc. Together, the components of the ASUCMA, their characteristics and interrelations determine the utility of this outcome for satisfying the pursued motive.

In accordance to Barnard et al. [Bar00] (ref. chapter 2.5.3) the ASUCMA can be understood as a type 2 macro-theory for analysing user-centred activities. The value of this framework is that it facilitates the identification of constituting components and their interplay for any user-centred activity which in turn can be further deconstructed in order to reveal basic influencing factors. For analysing the applicability of user-centred methodologies which is determined by the methods feasibility, efficacy and the utility of obtained outcomes, constituting components can be defined as follows:

- applicability = f (feasibility; efficacy; utility)
  - feasibility = f (motive; characteristics)
  - efficacy = f (characteristics; outcome)
  - utility = f (outcome; motive),
    - motive = f (1; 2; 3; 10)

- characteristics = f (4; 5; 6)
- outcome = f (6; 7; 8; 9; 10)

- in words: method-**applicability** is a function of feasibility, efficacy and utility.
  - **Feasibility** is determined by the motive pursued with the activity and the method's characteristics.
  - **Efficacy** is determined by the method's characteristics in combination with expected/required results.
  - **Utility** is determined by the value of generated outcomes for satisfying the activity's motive.
    - The **motive** is constituted by the subject's goals and is constrained by the interplay between subject, object, organization, community and rules.
    - **Characteristics** of a methodology are determined by the community's tool-pool and conditioned by requirements of the subject as well as features of the object.
    - The **outcome** is determined by the object and constrained by the interplay between subject, object, method, community, organization and rules.

Based on this abstract framework for analysing the general applicability of user-centred methodologies, the specific analysis of cross-cultural method applicability can build on. Therefore implications of influencing factors on constituting components as identified above which can be attributed to the special case of cross-cultural method application are to be scrutinized.

4.4 Implications for cross-cultural user-centred methodologies

In accordance to the conception of culture applied within this research (ref. chapter 2.1.3) and in combination with the ASUCMA above the **cross-cultural application** of user centred methodologies seems to be the rule. The concept of culture as patterns of shared meaning by members of a social entity suggests that each social entity culturally differs. Consequently each community associated to an ASUCMA will have its own culture and as in most cases subject and object of user-centred development endeavours will not belong to the same community the cross-cultural application of user-centred methodologies is the common case. There is an ongoing debate about the similarity required between two social entities in order for them to be defined as sharing the same culture [Kag06]. For the research on hand, however, it seems reasonable not to pick up this discussion, as the implication of cultural issues into user-centred product development approaches is a case by case decision influenced by various factors of the product, the context of use and the user. Fact is, that the cultural distance of communities can differ significantly and the larger this difference the more likely is the consideration of cultural difference within user-centred development approaches to improve development activities and the product itself.

The assumption that cultural differences are generally larger across national borders than within seems reasonable considering the fact that across borders most nations political, educational, social and economical systems as well as languages differ. However, there is no algorithm available for determining the cultural gap between two groups. Simple decision heuristics, e.g. language use,

educational background, or political context, as well as the application of cultural models (e.g. [Hof97], [Tro98]) can help to approximate the cultural distance between two communities, however, only with constraints discussed above (ref. chapter 2.5.3). Ultimately the reliable differentiation necessitates the analysis and comparison of underlying meanings, values and concepts.

Regardless of size of the cultural gap between development team and users, procedural and methodological implications of cross-cultural method application shall be discussed within this chapter. Any user-centred activity is an activity in professional context within a specific project organized through respective processes. Hence, a certain motive is pursued with the activity and associated actions are structured by applicable micro-processes, whereas most actions are organized according to the **Shewhart Cycle** (ref. Figure 4.5).

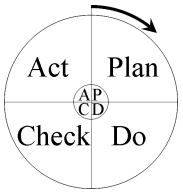


Figure 4.5: Shewhart Cycle (ref. [She31])

'Plan' comprises the clarification of goals pursued with a set of actions and the preparation of processes and resources for those actions to be carried out. 'Do' represents the actual execution of planned actions. 'Check' is to evaluate and monitor obtained results and processes against established goals. And 'Act' is to take further actions based on revealed findings. Initially these actions are directed towards the same process in order to improve its performance. Considering the existence of a multitude of parallel, sequential and nested process within any complex activity, this action can also be directed towards other processes.

For analysing method applicability in international context particularly the first two stages, i.e. plan and do, of respective activities hold valuable insights. From a process-perspective, of course, the whole circle significantly determines the success of international user-centred activities. However, as the primary research objective of this study is to analyse methodological applicability it seems reasonable to focus on cross-cultural issues influencing the formation of motives, the feasibility of respective method characteristics and their efficacy in obtaining desired outcomes and thus to limit follow on analysis on procedural and methodological implementations of cross-cultural method application.

4.4.1 Procedural implications

Procedural implementations can mainly be attributed to the organizational context, differences between the subject's and the object's community and applied rules and thus result through the interplay of ❶, ❷, ❸, ❼, ❾ and ❿. In accordance to the Shewhart circle, particularly planning and preparation issues and how they relate to the formation of the motives and goals of respective user-centred activities and actions, which in turn narrow the choice of feasible methodologies, are of concern here.

The major influencing factor determining follow on procedural necessities is the choice of **where** to conduct respective user-centred activities. This choice is by and large determined by the motive of

activities to be carried out. Recalling the constituting components of motives pursued to be the place and time of the activity in the PLM, general goals pursued and side constraints, such as qualification, time and budget, factors primarily affecting the motive can be attributed to the subject's organizational context ❶, its professional home, i.e. its community ❸, as well as adhered rules ❷, such as ethical considerations. In this regard, the organizational context seems highly influential. Organizational structure by and large determines **who** will be the subject executing the activity and at the same time shapes a large part of this subject's community. Hence, the subject's qualification is strongly influenced by the organizational structure. Process organization strongly determines place and time within the PLM in which user-centred activities take place and therefore sets the general frame of goals pursued, determines time constraints and affects budgeting decisions. Beyond, corporate culture and work ethics, which represent the major stake of rules affecting the subject's decision on goals to pursue and condition respective activities, are strongly affected by the subject's professional community. Based on this multitude of interrelated factors the motive of an activity is formed and decisions about countries, regions and sites to visit are made. Depending on location, its infrastructure, its access to qualified personnel, users, information and other resources necessary for executing respective activities, planning and preparation are of utmost importance.

Depending on goals to be pursued by respective actions the decision about who or **what** will be the object is the second major influencing factor determining procedural necessities. The nature of this object largely depends on rules it adheres to and the community by which it is shaped. Thereby, rules and communities strongly affect social, psychological and ideological features of the object which lead to methodological implications as discussed below. Beyond, depending on pursued motives and chosen location researchers often rely on intermediaries to recruit participants, execute methodologies and analyse results. Often this is necessary not merely due to language barriers, but also to local practices, rules and community features that do not allow the direct execution of user-centred methodologies by the researcher. Generally, the utilization of intermediaries requires them to be trained; an additional procedural requirement.

In combination the choice of location and object as determined by the subject's goals, which both come with their very own features, necessitate specific **procedural implementations** that are discussed at length by Dray and Siegel [Dra05]. Those, by and large are of very pragmatic nature, such as the adjustment of recruitment strategies to local needs or the clear and written specification of required equipments. Those preparations are highly important to ensure the successful application of international user-centred activities. However, they do not affect the applicability of a user-centred methodology per se and thus shall not be further discussed here. Factors directly affecting a method's applicability are rather to be attributed to features of objects to analyse and their influence on the method's characteristics. The methodological implications of cross-cultural method application will be henceforth further scrutinized.

4.4.2 Methodological implications

Methodological implications can mainly be attributed to the object and its community and are a consequence of the interplay between ❺, ❻, ❼, and ❿. Thereby, the nature of the object to analyse which is constrained by its community and adhered rules strongly determines method

characteristics feasible for pursuing the researchers' motives. From a cross-cultural perspective particularly the **cultural diversity** of humans impose significant constraints on applicable methodological characteristics. Even though, the research objects' contexts largely differ and constrain method applicability across cultures, implications for the application of methods are by and large of procedural natures. Thus the primary focus on methodological implications is on human diversity across cultures affecting method application.

Research shows that the universal and reliable application of various user-centred methods seems doubtful. Thereby, mainly usability evaluation techniques are the primary object of investigation. Hertzum et al. [Her01] for incidence showed that the total number of problems found within evaluation activities depends on the knowledge and experience of evaluators as well as the number of evaluators employed. As participants of user-centred methodologies across cultures largely differ in regard to those premises, the **evaluator effect** can be expected to be larger the larger the cultural gap between the locale of method origin and method application is.

Herman [Her96] suggested that the cultural orientation of participants of evaluation activities leads to deviating subjective and objective usability evaluations. An assumption that is widely confirmed by Yeo's work [Yeo01] who compared the consistency between results obtained with different usability assessment techniques, i.e. thinking-aloud, system usability scale and interviews, and who found particularly the participants' **experience**, **values** and social **norms** as well as subject-object relations to significantly influence results obtained.

An effect of the cultural gap between **subject and object** could also be confirmed by Vatrapu et al. [Vat06]. Clemmensen et al. [Cle05], [Cle06] could confirm for the thinking aloud technique that the local-local subject-object combination leads to faster method completion and a higher amount of thinking aloud events than foreign-local subject-object combinations. Hence, local subjects helped out more, found more task-specific usability problems, gave fewer cultural comments and inspired the user more to think aloud. Cultural influences on productivity and effectiveness on three commonly applied user-centred methodologies, i.e. probes, focus groups and usability tests, could also be established by Lee et al. [Lee07], who analysed those methods application in Korea and the Netherlands. This analysis revealed how differences in spontaneous participation, uncertainty avoidance, tendencies of critical communication and attitude influence method application and methodological as well as procedural implications were derived from that for enhancing considered methodologies' feasibility for the Korean market. For incidence, in regard to probes, the importance of continuous communication with the user and playfulness of method setup was highlighted. For improving usability tests, Lee et al. suggest to prime Korean users to approach the product with a critical mind and to apply rather indirect interviewing techniques. Focus group session they expect to be facilitated by warm-up sessions prior to the actual focus group as well as devices that 'force' participants to speak out, e.g. toy microphones.

All those findings support procedural implications discussed above. They indicate that individual differences between subject and object, which can be attributed to their cultural orientation affect methodological characteristics that are feasible for motive satisfaction. Table 4.1 summarizes some major **effects of individual differences** whose expression is culturally affected and affect the

application of cross-cultural user-centred methodologies at the same time. Congruently to cross-cultural variables of product localization as discussed in chapter 2.5.2, those can be understood as cultural variables of user-centred method application. For their identification the ASUCMA proved to be a valuable tool by focusing the attention on components constituting and constraining the object within user-centred activities. As discussed above major sources of influencing factors are the object itself and its community which imposes certain constraints in terms of rules and organization. Based on those sources and their interrelations 22 factors influencing cognitive abilities, communication, problem solving, decision making, meanings, skills, mental model formation, behaviours, perception, ideals and motives could be identified which are briefly discussed below.[6]

Table 4.1: Collection of Object-Characteristics with Methodological Implications

Source				Effect	Description	Reference	Impact on	Implications for			
o	r	c	or					b	c	i	m
		X		schooling and literacy	⊙ literacy and schooling both contribute to the growth of mind by transmitting information, content of thought and process thinking	[Mis01], [Rog81]	cognitive abilities, communication, problem solving	X	X	X	
		X		knowledge	⊙ culture provides symbolic knowledge and thus determines the meaning of artefacts and actions ⊙ culture is engrained in the individuals declarative and procedural knowledge, but: ○ a lot of what constitutes culture cannot be articulated ○ people lack the skills to describe how they manipulate their environment	[Fis02], [Kim06]	cognitive abilities, problem solving, meaning, decision making, behaviour	X	X	X	X
X	X			fast and frugal heuristics	⊙ people use heuristics, e.g. the availability of something to judge its abundance, to make decisions ⊙ applied heuristics are culturally biased ⊙ e.g. situational vs. dispositional attribution	[Gig99], [Kah00]	decision making, behaviour			X	
X	X	X		ecological rationality	⊙ different environmental issues serve as cues for memory and the acquisition and recollection of information ⊙ e.g. people are better in remembering stories when prevailing cultural knowledge was applicable	[Mis01], [Gig01b]	decision making, behaviour, meaning, cognitive abilities			X	
	X			situational attribution	⊙ external or situational attribution vs. internal or dispositional attribution ⊙ culture affects which attribution prevails	[Cho99]	decision making, behaviour, meaning	X	X	X	
		X		reference group effect	⊙ people compare themselves unconsciously to their peers and not to the population mean	[Hei02]	ideals, behaviour, motives		X	X	
X				spatial cognition	⊙ process through which individuals gain knowledge of objects and events in or linked to space ○ different cultures use different frames: ○ viewer centred ○ object centred ○ environment centred	[Mis01], [Tay96]	perception, communication, problem solving			X	

[6] References are provided for further readings.

Source				Effect	Description	Reference	Impact on	Implications for			
o	r	c	or					b	c	i	m
X				categoriz-ation	⊙ culture effects the way people organize and retain their knowledge in terms of colour coding, classification, validity of prototypes and sorting	[Mis01], [Rog81]	cognitive abilities, communication, problem solving		X	X	
X		X		creativity	⊙ creativity differs across cultures in terms of: ○ its definition ○ creative expression ○ valuation	[Niu06], [Kau06]	problem solving, cognitive abilities, motive		X	X	X
X				problem solving	⊙ people across cultures differ in their reasoning style in context (related to situational vs. dispositional attribution) ⊙ context-free people across cultures use the same strategies	[Niu06], [Kau06]	problem solving, decision making, behaviour	X	X	X	
X		X		conflict perception	⊙ positive vs. negative perception towards conflicts is culture dependant ⊙ culture thus effects the conflict style (self-first vs. others-first)	[Ng01]	communication, behaviour, creativity		X	X	X
		X	X	authority ranking and relational models	⊙ in different cultures different relational models are of important and have different characteristics ⊙ e.g. importance of hierarchy in interaction and communication	[Fis93], [Fis02]	communication, behaviour	X		X	
X	X	X		affect validation	⊙ differentiation between actual effect (what we feel) and ideal effect (what we want to feel) ⊙ ideal effect is strongly influenced by culture	[Tsa06]	behaviour, motive	X	X	X	X
X	X	X		self-critique	⊙ culture shapes the development of self-enhancement and self-critique ⊙ some cultures focus on finding things they are good at ⊙ other cultures focus on fining things they are not good at	[Hei00]	behaviour, problem solving, motive, communication	X	X	X	X
X	X	X		self-esteem, self-evaluation and self-improveme nt	⊙ culture strongly effects peoples self-esteem, the way they evaluate their selves and their performance and their approach towards improving based on these judgements	[Hei01], [Kas01]	behaviour, problem solving, communication		X	X	X
X	X			attitude behaviour consistency	⊙ there exists a discrepancy between people's attitude, e.g. their norms, values and beliefs, and their behaviour ⊙ culture influences the scope of this discrepancy	[Fis02], [Ros91], [Sch03]	behaviour, motive	X		X	
X				personality	⊙ personality as "dimensions of individual differences in tendencies to show consistent patterns of thoughts, feelings and actions" ⊙ personality constituted by genetic premises and enculturation processes ⊙ distribution of personality traits differs across cultures	[McC02], [Rob05], [All04]	behaviour, communication, problem solving, cognitive abilities, creativity, motive		X	X	X
X	X			value orientation	⊙ values as desirable goals varying in importance that serve as guiding principles in people's lives ⊙ people want to act according to their values (ideal) but actually are not doing it often enough ⊙ value-orientation differs across cultures	[Eng67], [Kum90], [Sch03]	behaviour, communication, problem solving, cognitive abilities, creativity, motive, ideals		X	X	X
	X	X		response style	⊙ the extent of extreme and mediocre response-style varies across cultures ⊙ also the extent of acquiescent bias	[Joh05]	behaviour	X		X	

Source				Effect	Description	Reference	Impact on	Implications for			
o	r	c	or					b	c	i	m
X		X		flow	⊙ the mental state in which a person fully immerses in an activity; associated with feelings of energizing, success, happiness, involvement ⊙ the overall quality of subjective experience of an individual is a function of the skills the person beliefs to possess in relation to activity and challenges of it ⊙ skill/challenge ratio connected to extrinsic and intrinsic motivation and mediated by culture	[Mon04], [Csi90]	motive, behaviour		X	X	X
	X	X	X	etic bias/ framing	⊙ material created in country A and applied in country B is biased towards meanings of country A ⊙ people apply mental models that are culturally framed on artefacts used	[Fis02]	meaning, behaviour	X		X	
		X		familiarity	⊙ some cultures are more used to testing, questioning and observing ⊙ the familiarity of the user with a method effect its obtained results	[Gre97], [Dun05]	problem solving, behaviour	X			

o = object, r = rule, c = community, or = organization, b = conceptual basis, c = creativeness, i = interactivity, m = motivation

Based on the cultural impact of identified effects on the object of the ASUCMA, methodological implications can be derived. 6 suggests that a method is more feasible for motive satisfaction and can be expected to have a higher efficacy in outcome production the more it is aligned to the object's premises.

Research concerning the application of cross-cultural user-centred methodologies, as reviewed above, suggests that the applicability of methodologies differs according to locale of application. The primary reason for this can be explained by connection 5 of the ASUCMA. Despite aligning the choice about methods to apply with premises of the object, in most cases the subject will chose a methodology from its own community's toolbox as those are methods it is familiar with and aware of. Thus, applied methodologies are likely to be confounded with etic biases of the subject's community (ref. 5). The more the subject's community differs from the object's one, the worse those methods characteristics are aligned with requirements of the object and thus the lower is the method's applicability.

One way to account for this effect is the development of **indigenous methodologies**. Following the philosophy of indigenous psychology [Kim93], those are methodologies which are developed within and shaped by concepts and models of the culture they are applied in. Thus, instead of applying methodologies that originate from the subject's community and are shaped through 5, methods of the object's community are applied which in turn are shaped by 5'. However, to date the majority of applied user-centred methodologies are based on western research principles and practices and the development of indigenous methods does for most cultural contexts virtually not exist. One exception represents India, for which Chavan [Cha05] developed a set of methods based on local customs and practices. For incidence, she developed a Bollywood evaluation style in which the widely accepted and highly popular critique style of Bollywood movies is transferred to product evaluation methods in order to overcome the Indian users' reluctance to communicate critical ideas and opinions.

As already the name suggests, indigenous methods are most appropriately to be developed by indigenous researchers and practitioners. Yet, a lack of respective professionals and research areas in

each culture make the short- to mid-term development and availability of a broad spectrum of indigenous user-centred methodologies doubtful. Hence, particularly for multinational corporations the in-house application of a multitude of indigenous methodologies seems quite inefficient, as each methodology necessitates special training and their application special, i.e. local, subjects.

Another approach for accounting for cultural effects of user-centred method applicability is to adjust existing methodologies to local needs. One can expect local subjects applying foreign methodologies to intrinsically change ‘soft’ method features, such as communication styles and group compositions, in a way that better meets local customs. However, a structured approach for a throughout method localization based on a rigorous framework does not exist.

5 An approach towards method localization

In the previous chapter a framework for analysing the applicability of user-centred activities was introduced. Based on this framework, procedural and methodological implications of the application of user-centred methodologies across cultures were derived and the need for a structured and comprehensive approach towards the localization of user-analysis methodologies shown.

Within this chapter a model for the localization of user-centred methodologies shall be introduced. In alignment with the dualism of product internationalization and localization first some requirements for the internationalization of user-centred methodologies will be discussed. Then, the theoretical foundations for the localization of methodologies based on Hacker's action regulation theory [Hac05] will be laid, followed by a comprehensive list of factors influencing cross-cultural method application. Finally a model for the methodological localization of user-analysis methodologies will be introduced and procedural implications derived.

5.1 Method internationalization

In accordance to the internationalization of products, the main purpose of method internationalization is the identification and abstraction of method features that are culturally influenced. In chapter 4.2 these features were already foreclosed with the introduction of abstract method characteristics. Within the framework for analysing method applicability (ref. chapter 4) was shown how abstract method characteristics influence a method's feasibility for satisfying the subject's motives and a method's efficacy in generating desired outcomes. Beyond, the ASUCMA introduced in chapter 4.3 enabled the identification of components having a direct constitutive influence on the a method's characteristics to be the subject with its goals, the user with his/her premises as well as the community the method belongs to. Hence, the taxonomic organization of user-centred methodologies, based on abstract method characteristics seems a reasonable starting point for method internationalization. Based on this, various existing methodologies and sub-methodologies with respective features can be categorized, differentiated, and their expression in regard to abstract method characteristics assessed. This in turn enables the development of a comprehensive map of the methodological landscape based on abstract methodological features facilitating their combination and extension with each other in alignment with respective user-centred activities' needs. Within this framework the methodological taxonomy only will be described. Its application will be exemplified within the empirical verification of this framework in chapter 6.

The abstract nature of this **taxonomy** allows any user-centred activity to be classified by that. Thereby classifying decisions are to be made in regard to each taxon. Depending on taxon these decisions can be mere yes/no decisions, i.e. the methodology belongs to the respective taxon or not, and/or decisions about the expression of a method's features in regard to the taxon. For facilitating decisions

regarding the strength of expression various tools for multi-criteria-decision-making, e.g. the analytical hierarchy process [Saa96], are available. The following table summarizes abstract traits identified.

Table 5.1: Abstract Method Traits as Taxonomic Foundation for Method Internationalization

Characteristics			Description
Conceptual Basis			The conceptual home of the user-centred methodology represents a taxonomic meta-level setting the general frame. The classifying decision for assessing a methods expression is a yes/no decision. A methodology either belongs to some conceptual home or not.
	Interview	Open	An open interview can be understood as a rather loose conversation about a prefixed general topic.
		Semi-structured	In semi-structured interviews the object answers to an array of pre-set questions posed by the interviewer. S/he can respond freely.
		Structured	In structured interviews the object chooses among possible answers given to questions posed by the interviewer. This can be understood as a verbalized questionnaire execution.
	Self-Report	Open	In open self-reports the object communicates ideas, thoughts and feelings freely without constraints of reporting-style or -topic. A general theme, however, can be set.
		Closed	In closed self-reports the object communicates ideas, thoughts and feelings as preset by the methodology applied. This constraints reporting-style and defines topics to cover.
		Paper & pen	In paper and pen reports the primary medium for communicating ideas, thoughts and feelings are paper and pen.
		Technology supported	In technology supported reports information and communication technology is used as the primary medium of communication.
		Real-time	In real-time self-reports the object communicates ideas, thoughts and feelings at the moment they occur.
		Summative, asynchronous	In summative or asynchronous self-reports the object collects occurring ideas, thoughts and feelings over a certain time period and forwards the whole collection to the subject at a later point in time.
	Observation	Participant-observation	In participant observations the observer is one of the participants of an activity. S/he is actively involved in planning, conducting and/or evaluating the activity together with the object. The object consequently is aware of his/her and the subject's role.
		Concealed observation	In concealed observations the object is not aware of being observed. The subject acts as unobtrusive as possible. Often information and communication technology is applied.
Creativeness			A methods creativeness represents features supporting creative efforts of the object. The classifying decision for assessing a method's expression of respective features is a decision on a continuum reaching from very high to very low. The higher the expression the higher the methods creativeness.
	Originality		Originality of a method refers to the methods ability to put the object in a novel and stimulating situation. Various features of the CKE, e.g. physical environment, group or general work situation, as well as applied tools, artefacts and procedures, e.g. games, influence a method's originality.
	Fluency of Ideas		Fluency of ideas refers to the methods ability to generate a free and frictionless flow of thoughts. Possible sources of friction can be the group, e.g. criticism, applied rules, e.g. production blocking, features of the organizational environment, e.g. corporate culture, or other issues influencing the object, i.e. its community.
	Flexibility of Thoughts		Flexibility of thought or openness represents the degree of freedom the method allows in the object's thinking-style. Prefixed topics, answers, structures or patterns are likely to lower the degree of freedom.

Characteristics			Description
Motivation			A methods motivation represents possible sources for incentives the method holds. The classifying decision for assessing a method's expression of respective features is a yes/no decision combined with a decision on the strength of the expression on a continuum reaching from very high to very low.
	Internal	Content	The content of a methodology can be the topic itself as much as concepts, tasks, actions, tools, or artefacts associated with the method that might intrinsically motivate the object.
		Challenge	Tasks and actions associated with the methodology can be perceived as challenges by the object. The mastery of these challenges can motivate the object to perform.
		Control / Skill	Tasks and actions associated with the methodology might necessitate special skills to master them. The possession of respective skills that allow the object to control the methodology can motivate him/her.
		Curiosity	The methodology might expose the object to new concepts, topics, tasks or actions that motivate the object to explore them.
	External	Relationship	Personal relations associated with the methodology, which motivate the object to perform. Relations can be induced by subject-object relations, the community and/or group.
		Money / Gifts	Money and gifts are tangible incentives the object is rewarded with for participation.
		Pressure	Pressure represents some external force that makes the object apply and perform. This can be induced organizationally, or by the objects community and rules it adheres to.
Interactivity			A method's interactivity is constituted by the interaction-partners it provides for the object. Similar to motivation the classifying decision for assessing a method's expression of respective features is a yes/no decision as well as one about the expression's strength.
	Artefact	Working System	A working system is any product or service available in the market the object is to interact with.
		Prototype	A prototype is any system concept before the system is being produced. This can range from an early paper prototype to an sophisticated mock-up.
		Private Items	Private items are artefacts of the objects' personal environment it utilizes within method application to facilitate the communication of ideas, thoughts or feelings.
		Supporting Items	Supporting items are artefacts provided by the subject to facilitate the communication of ideas, thoughts and feelings.
	Group	Friends	Friends are people the object has a personal and emotional relation with.
		Peers	The peer of the object consists of people of the same level in terms of hierarchy, education, age, etc. Often they share specific life themes, values and culture with the object.
		Superiors	Superiors are people with higher social or organizational status than the object. This status can be defined in terms of money, age, hierarchy, etc.
		Competitors	Competitors are people from a community or organization competing with the one of the object.
	Subject / Investigator	Moderator	A moderator is a qualified person that presides the application of a methodology and mediates communication, action and discussion without being actively involved in it.
		Interviewer	An interviewer is a qualified person that is actively interacting with the object. The interviewer asks questions the object is to respond to.
		Observer	An observer is a qualified person that observes and documents method application.

It seems worthwhile to point out that this taxonomy and a methodology's characteristic expressions of respective taxa is most appropriate applied and understood as a **relative scale**. Even though the establishment of an absolute methodological landscape of nearly all user-centred methodologies is desirable and certainly could be developed based on profound and in-depth analysis of most methods available, for practitioners such an approach seems not feasible as being too time-consuming and resource-demanding. Academia and design research, though, seem more appropriate to provide this. Nonetheless, when understood as a tool for supporting the relative categorization of known and applied methodologies based on abstract traits, this taxonomy adds significant value to cross-cultural

method application for practitioners by facilitating follow-up localization endeavours. With these criteria being identified as promising staring-points for adapting various user-centred methodologies to situation specific needs the introduction of a comprehensive method localization approach can commence.

5.2 Method localization

In accordance to the localization of products and services, method localization aims at the modification of user-centred methodologies to account for differences in distinct markets. These differences can by and large be attributed to the object, i.e. the user, whose cognition, emotion, motivation and behaviour is shaped by the community s/he belongs to, rules s/he adheres to and organizations s/he is associated with. The ASUCMA proved to be a valuable tool for identifying respective influencing forces and explaining the necessity of method localization. Hence the **modification of user-centred methodologies** seems necessary due to variances between features of subject and object and discrepancies of the methodologies' community of origin with the object's community (ref. chapter 4.4.2). As already discussed, one procedural implication to account for differences between subject and object is the utilization of local investigators. This, however, seems not sufficient to achieve optimal results, as the discrepancies between the method and the object remains what in turn influences method efficacy. Higher efficacy of method application and therefore higher method applicability can be expected if the method's characteristics are in alignment with features of the object influencing its participation.

For facilitating the identification and association of factors influencing the object's performance in user-centred activities some preliminary work in regard to the theoretical foundation of human action regulation seems necessary. Based on this, the association of object-characteristics with methodological implications as identified based on the ASUCMA in chapter 4.4.2 to factors regulating object actions within user-centred activities can build on. With respective connections being established a model for comprehensively localizing user-centred methodologies can be developed and the pragmatic issue of measuring respective influencing factors addressed.

5.2.1 Theoretical Foundation

Discussions below build on Hacker's **action regulation theory** [Hac05]. According to Bernard et al.'s differentiation of theories for user-centred product development [Bar02] (ref. chapter 2.5.3), action regulation theory must be understood as a type1 macro theory for explaining how different human sub-systems interact for structuring human action.

According to Hacker [Hac05] and Tomaszewski [Tom78] the psychological components for regulating human activities comprise the setting of goals, the assessment of the task and alternatives for completing it, the development of an action program that includes desired results and necessary operations, the decision about program execution and the actual execution of it which is continuously monitored. Situations threatening the success of programme execution are looped back and can change the inner representation of the action program as well as its actual execution. Thus, any human activity is constituted of components responsible for actions and components for regulating

respective actions. Figure 5.1 arranges respective components regulating human activity. It is important to point out that action-preparation and –execution as well as stimulation- and fulfilment regulation cannot be understood as sequential processes or phases but happen parallel and interlock.

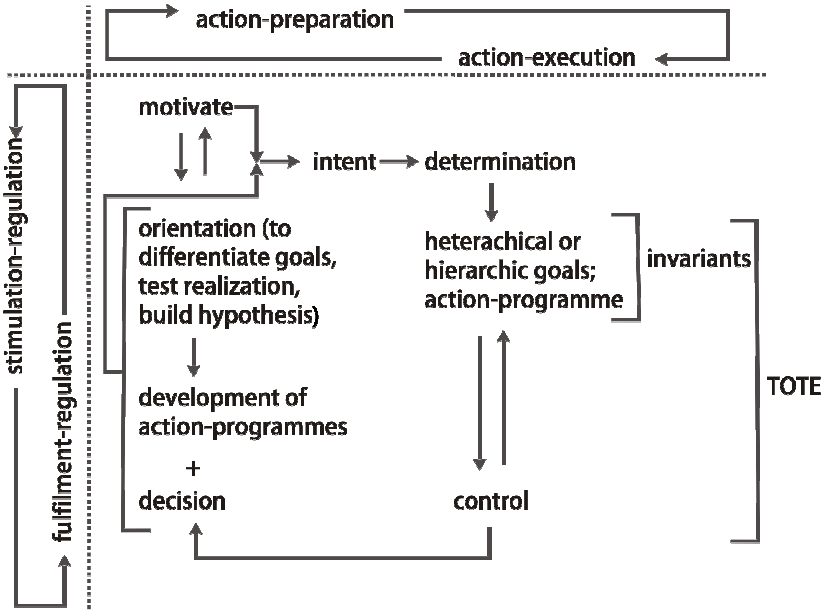


Figure 5.1: Action Regulation Theory (ref. [Hac05])

The development of motives and goals is the essential part of the stage **motivate**. Thereby, the object's values and norms serve as guiding principles or super-ordinate goals influencing motivational premises. Within user-centred method application the development of the object's goal systems comprises the inner representation of tasks given by the respective methodology as well as the formulation of own goals and motives associated to the participation in respective methods. Own capabilities, challenges and incentives influence the assessment of adopted goals as well as the establishment of own ones. Hence, particularly motivational factors are at play within this stage.

The action itself in turn, is strongly stimulated by **emotions** associated with its progression. Self-enhancement (e.g. pride of goal achievement), hedonistic feelings (e.g. joy of application), or other satisfying emotions (e.g. flow) support and stimulate execution. Emotions, though, are not limited to actually perceived ones, but also include anticipated feelings, too. Thus, emotions also play a role in motive and goal setting.

Psychological activities related to the stage of orientation, action-program development and decisions about respective realizations can mainly be associated to the **cognitive system**, whereas sensory and perceptual processes play an essential role regarding the inner representation of perceived information. Hence, knowledge about options and procedures significantly regulates the development of possible and the decision about feasible solutions.

Planned actions are finally realized within test-operate-test-exit (TOTE) units. These units represent the connector between unobservable cognitive and emotional processes with actually observable behaviours. The structure is the following:

1. Test the current problem state in order to generate some inner representation of that (cognitive activity)

2. Operate or act in a certain way to change the problem state
3. Test the new problem state after action to check whether this changed the state or not; if no loop back to operate, if yes
4. Exit.

These remarks must be understood as a brief and highly simplified review of complex processes happening when humans act. They seem sufficient, however, to link action regulation to basic and fundamental features of the human system that are at work within the preparation and execution of actions as well as within their regulation of stimulation and fulfilment. Figure 5.2 summarizes these components and assigns them to respective stages of the action regulation model. Remarks above should have made clear that the straightforward and unambiguous association of psychological and physiological activities to respective stages of action regulation is not possible as all components are highly interwoven. The nature of goals, for incidence, is that they combine presence and future what forbids the separation of presence-oriented cognition and future-oriented motivation [Hac05]. Nonetheless, the model depicts the major components at work for each stage of human actions and thus serves as a feasible foundation for associating situational effects, such as cultural ones, to them.

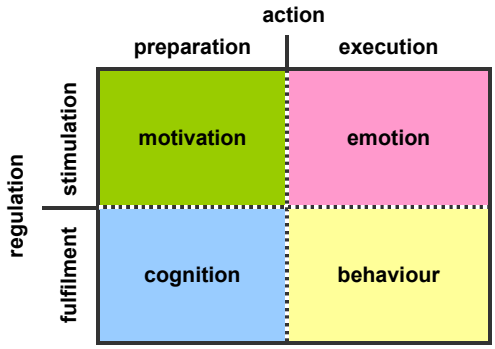


Figure 5.2: Action Regulation and Constituting Components

Regarding the adaptation of user-centred methodologies particularly the comparatively stable inner representation of goals and action-programmes are worthwhile highlighting. In chapter 2.1.1 those inner representations were broadly summarized as mental models. It seems convincing that goal oriented behaviour necessitates the inner representation of goals and action-programmes for assessing actual activities as well as planning them. Thereby mental models allow humans to understand complex systems and to predict how their actions might affect them. As discussed mental models are build based on previous knowledge and new information perceived. Consequently, the better the inner model represents the real system, the more effective and efficient the human can act. This is the basic ratio behind user-centred product development which can equally be applied on user-centred methodologies, too. Thus, the better user-centred methodologies are aligned with needs and premises of the participating user, the higher their efficacy in obtaining desired outcomes. Thereby, mental models affect goal formation, the representation of initial system states (the system here is the system of user-centred method application) as well as of possible and feasible measures to be taken which are associated to prediction and knowledge.

Thus, **components influencing** cross-cultural method **application** can by and large be associated to motivational, emotional, cognitive and behaviouristic premises of the object. Based on collected

object-characteristics with methodological implications (ref. chapter 4.4.2) the following figure provides this association.

Figure 5.3: Influencing Factors of Cross-Cultural Method Application

5.2.2 Model of methodological localization

In the previous chapter the theoretical foundation for method localization was laid. According to this, emotional, cognitive, motivational and behaviouristic premises of participants necessitate the adaptation of abstract method characteristics in order to enhance method efficacy and hence applicability. Figure 5.4 below depicts a **model of actions** associated to method localization. As already discussed (ref chapter 4.2), the subject's motive pursued with the application of a user-centred activity largely determines eligible research objects and with this frames the choice about feasible methodologies. Thereby, the motive is shaped by specific goals, the place and time of the activity in the PLM as well as various constraints. The prospective object's participation is to supply some desired outcome and is, in turn, mediated by factors identified above. Beyond, chapter 5.1 introduced abstract method characteristics being constituted of a method's conceptual basis, creativeness, interactivity and motivation.

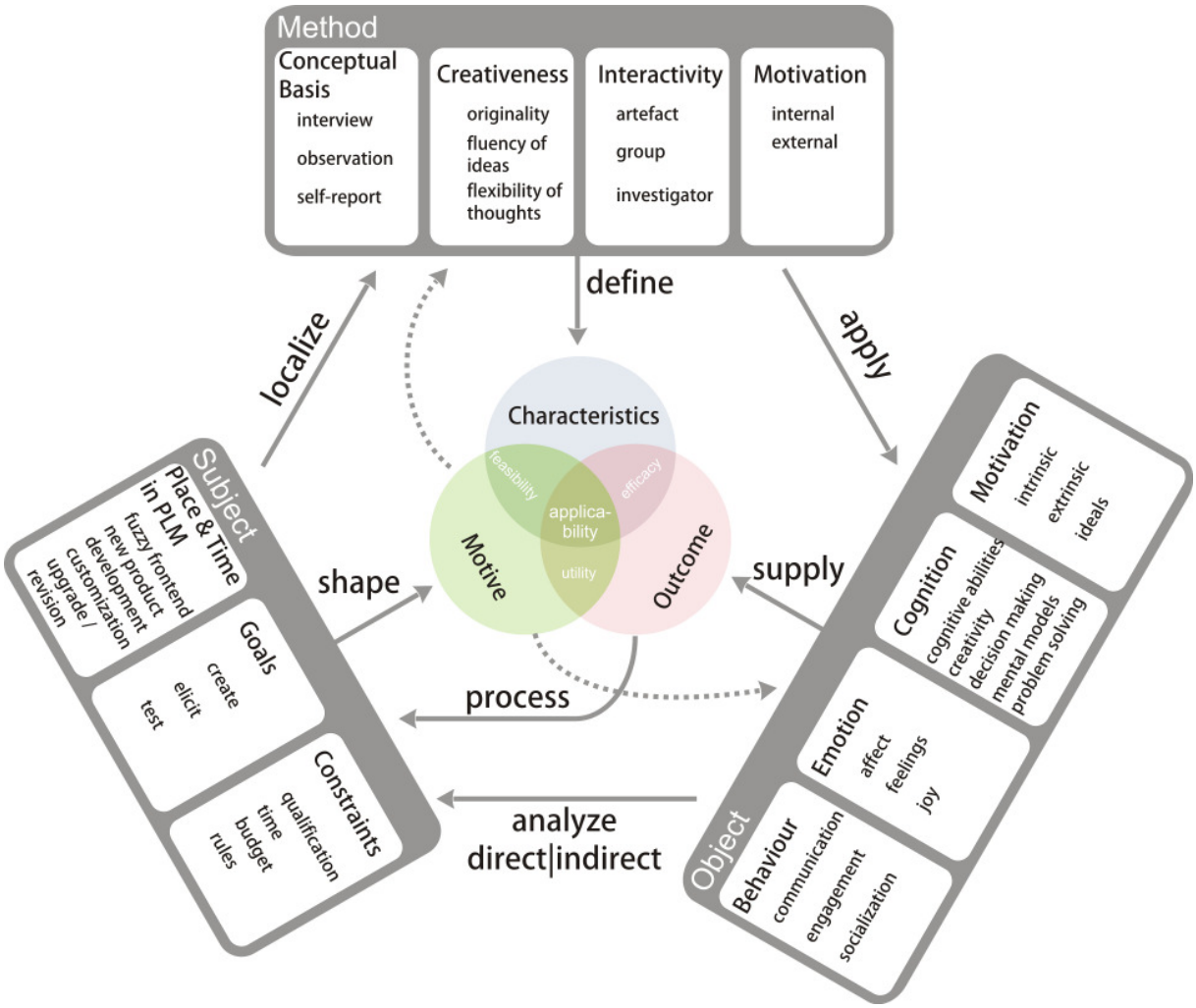


Figure 5.4: Model of Method Localization

Together, those features determine method applicability which is to be enhanced by the localization of user-centred methodologies. Aligning method characteristics with premises of the prospective object, obviously, necessitates the knowledge about general motivational, cognitive, emotional and behaviouristic traits of it. Consequently the localization of user-centred methodologies commences with an analysis of respective orientations of the object or object-group. Even though the constituting

features of those traits are the same for all humans the ASUCMA introduced in chapter 4.3 explains how the interaction of the object with its community, associated organizations and established rules shapes those feature's expression. Thus, dynamic processes, e.g. personality development or enculturation, between the object and its environment are shaping static processes at work when engaging in user-centred activities (ref. chapter 2.2.3). Hence, for **analysing premises of the object** regulating its participation in user-centred methodologies two generic approaches are thinkable.

First, structures and features of the object's community, its rules and organization hold valuable information for deriving factors influencing behavioural, emotional, cognitive and motivational characteristics of the object from that. The benefit of this **indirect** approach is that it facilitates the identification and abstraction of forces originating from the object's environment and influencing respective psychological and behaviouristic premises of the object without necessitating the subject to directly contact the one object later participating. Any object meeting the subject's requirements for participation can be utilized as a representative of objects that will actually engage in method application around which the identification of environmental factors can evolve. Thus, interrelations as established by the ASUCMA (ref. chapter 4.3) that serve as primary sources of information for the indirect approach are ❼, ❽, and ❾, which can be supplemented by ⓫ and ⓬. However, particularly if interrelations of the object with its community, rules and organizations are to analyse from the scratch, this approach imposes high demands on budget, time-constraints and the subject's qualification and thus seems quite inefficient for localizing a few methodologies. Nonetheless, this approach is expected to provide rich information in high granularity based on which respective methodologies can be localized with high quality. The abstract nature of collected information facilitates its reuse for localizing a multitude of user-centred methodologies. Consequently the indirect determination of object premises seems particularly applicable for corporations striving at the development of a localized user-centred tool-box for distinct markets which are regularly applied and reused. Beyond, costs associated with this direct approach can be further reduced by utilizing information from secondary sources such as cultural, social or indigenous psychology. Not at last it is exactly those fields' objective to analyse how features of an object's environment determine its psychological and behaviouristic orientation.

Second, premises of the object influencing method applicability can be directly obtained, or at least approximated, through standardized psychological tests. Therefor various approved tests are available for measuring general cognitive abilities, i.e. intelligence, and special constituting components, e.g. creativity, for determining motivational and emotional orientations as well as for approximating personality, values and norms as fundamental guiding principles. The primary source of information necessary to localize respective methodologies, consequently, is the object with its premises itself. Obviously the advantage of applying standardized test inventories is that this approach significantly lowers costs for eliciting information about the object's premises. However, the one-on-one relation between obtained test results and the object makes respective information only feasible for generalization if large enough sample sizes are utilized. If not, this approach comes with the procedural implication of directly analysing the premises of those objects that will be the ones on which localized methods will be applied. Another drawback of the **direct** assessment of respective premises is that several factors identified to influence the applicability of user centred methodologies,

e.g. etic biases/framing, response style or method familiarity, also influence the application of psychological test inventories what in turn necessitates the application of cross-culturally validated inventories accounting for those effects. Unfortunately most inventories available do not meet this requirement and for many cultural groups no appropriate tests are available. Beyond, the granularity of information collected via psychological tests seems less rich and coarser than indirectly collected information what lowers localization quality. This does not necessarily imply that the direct approach is less applicable than the indirect one, as demands on information richness and granularity largely depend on the depth of method localization necessary which in turn is determined by the objects' distinctness. Figure 5.5 below opposes direct and indirect approach to the application of the localized methodology and the distinctness of prospective objects. Thus direct approaches seem particularly feasible for analysing rather less distinct objects. For highly distinct ones the indirect approach seems more appropriate.

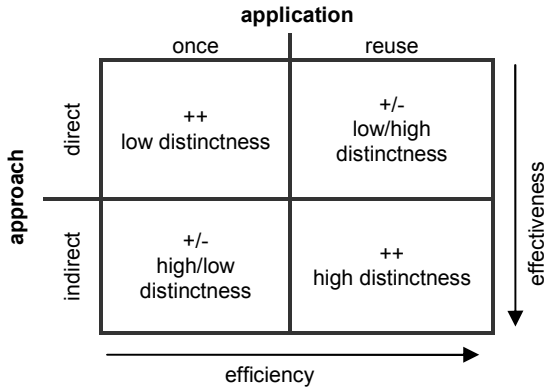


Figure 5.5: Efficiency and Effectiveness of Analysis Approaches

The discussion of the two generic approaches for analysing premises of the object influencing method applicability must be understood as theoretically separated for didactic reasons, only. For real method localization endeavours, nothing speaks against the combination of both, depending on object characteristics to analyse, information on hand, motive of the activity and methodology to localize. Indeed, particularly methodologies utilizing supportive artefact or other features that have a certain meaning in distinct locales necessitate the indirect approach for localizing respective artefacts as abstract psychological tests cannot provide information required for this. Further premises of the object, though, can be efficiently gathered through standardized inventories. Furthermore, not all factors of the object identified need to be analyzed in all cases. It's the subject's motive pursued with a particular activity associated with respective goals that determine the process of method localization and thus set the frame of influential factors to consider.

5.2.3 Process of methodological localization

For discussing procedural implications of method localization the rather complex model of localization depicted in Figure 5.4 seems worthwhile to further simplify for enabling a process view (ref. Figure 5.6). The subject's motive pursued with any user-centred activity initiates the whole process. Based on this **motive**, goals are established that are framed by the place and time of the activity in the PLM and respective conditions. Thus, the first meaningful stage of method localization is to define clear-cut

goals associated with user-centred activities the methodology is to apply with. Those **user-centred goals** determine by and large objects associated with the activity as well as actions to be taken within it. With the decision about the object, the methodologically relevant questions of **who** will be the participant and **where** the action will take place are to be addressed. The decision about actions to be taken defines **what** is to be done and **how** is it to be achieved. In most cases decisions about the object and actions are highly interrelated, as the 'who' and 'where' strongly influences the 'what' and 'how' and vice versa. **Premises of the object** are to elicit either via direct, indirect or combined approaches, whereas the object itself as well as the type of actions will strongly influence approaches pursued and tools associated with that. In any case, premises relevant to analyse for method localization are to identify among the object's cognitive, emotional, motivational and behaviouristic preconditions. At the same time, abstract **method characteristics** are to identify that seem feasible and necessary for completing defined actions. Thereby, the internationalization of the subject's tool-pool must be understood as necessary and supportive preliminary work enhancing respective endeavours. Finally, defined method characteristics are to **align with** the object's **premises** identified. This is to align a method's interactivity, creativity and motivation with cognitive, behaviouristic, motivational and emotional characteristics of the object. This procedure is to cross-check with initially established goals in order to ensure the localized method's feasibility for the activity it was intended to be engaged in.

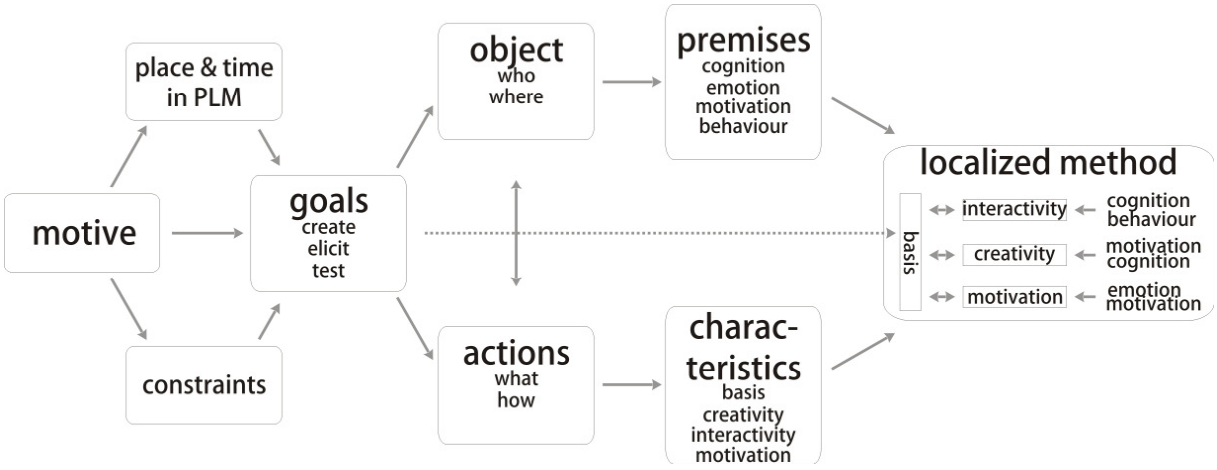


Figure 5.6: Process of Method Localization

It seems worthwhile mentioning that this process does not necessarily accompany actual user-centred activities. Even though, the combined application of method localization and application is likely to reduce costs, e.g. travel costs, recruitment costs, rent for equipment and facilities, this process can also be independently applied in order to develop a localized tool-box for various user-centred activities in distinct locales. The value of such a tool-box will largely depend on the industry a company operates in as well as on markets it delivers.

Various **tools** are available to support the subject within any stage of the localization process. The explicit and unambiguous definition of goals, for incidence, can be supported through the mnemonic SMART as widely applied in setting objectives in project management. SMART is the acronym for

specific, measurable, achievable, relevant and time-bound.[7] Defining goals that meet those premises significantly facilitates their realization, management and control and thus improves localization endeavours [Dru05]. Further on, decisions about which method characteristics to be the most feasible ones for defined actions must be understood as a multi criteria decision problem for which a multitude of decision aids are available. Figueira et al. [Fig05] discuss several of them and their theoretical foundation at length. As already discussed various psychological tests are available for directly assessing premises of the object related to cognitive skills, e.g. Lohman and Hagen's Cognitive Abilities Test (CAT), motivation, e.g. Amabile's Work Preference Inventory (WPI), emotional, e.g. various measures of the Emotional Intelligence (EQ), and further psychological premises, e.g. personality through Costa and McCrae's NEO-PI-R or value systems through Schwartz's Value Scale (SVS), of the object. Beyond and as discussed above ethnographic and social science provide a set of tools for analysing environmental structures and their impact on the object. Being already widely used within the domain of user-centred product development, those tools, though, obviously are prone to something like an hen-or-egg problem as many issues identified influencing the cross-cultural application of user-centred methodologies, of course, affect ethnographic and social science methodologies, too. Their application nonetheless can be expected to elicit insights highly relevant for method localization, particularly if those are supplemented by secondary sources of cultural, social or indigenous psychology.

To verify theoretically derived premises made within the development of this model for method localization as well as to extend the existing knowledge base with facilitators and obstacles affecting method-applicability across cultures, an extensive empirical study was conducted in distinct locales with six distinct methods. This study will be discussed within the following chapter.

[7] The exact origin of this mnemonic is unknown. Peter F. Drucker, however, outlined a very similar system in "The Practice of Management" [Dru54] already in 1954 related to the management by objectives [Dru05], [Wik08d].

6 Empirical verification of method localization

Based on the framework for analysing user-centred method application and the ASUCMA introduced, in chapter 4.3 cultural sensitive factors were identified which affect the applicability of user-centred methodologies. In chapter 5 a structured approach for localizing user-centred methodologies based on abstract method traits and in alignment with cultural sensitive premises of the object was introduced. The empirical study described in this chapter is intended to verify some of the influencing factors identified and theoretical foundations laid in previous chapters.

6.1 Purpose

Due to limited resources in terms of time and budget this empirical study can merely provide verification for a subset of system parts interacting within the model of method localization. Thus, the primary focus is on analysing effects induced by the alignment of culturally sensitive object premises with abstract method characteristics across national cultures. Despite **method efficacy**, therefore, being the centre of attention, outcome utility and method feasibility shall be addressed as detailed as collected data allows.

Further on, this research is to study effects on the applicability of user-centred methodologies on different levels of analysis for addressing possible sources responsible for influencing effects. Therefore, effects induced by **individual differences** of respective participants are to analyse on individual level. Effects of the participants' **cultural orientation** on method efficacy will be analyse by comparing results obtained by different national samples, profiled through individual level characteristics. Hence, effects induced by a **method's characteristics** on obtained results on method efficacy controlled for individual and national effects are to analyse in order to compare relative strengths of individual, cultural and methodological impacts on method application.

In sum the general objective of this empirical verification of method localization is to gain knowledge about factors facilitating and hindering the application of representative user-centred methodologies in distinct cultural contexts. Beyond this is to reveal the relative strengths of individual, cultural and methodological effects.

6.2 Research Setup

To verify influencing factors on user-centred method application across cultures, different user analysis methods that significantly differ in their expression of abstract method characteristics in terms of conceptual basis, creativeness, motivation and interactivity (ref. Table 5.1) were applied in three distinct cultures, namely China, Korea and Germany. Respective methods as well as the value of the established taxonomy for method internationalization for differentiating and categorizing them are discussed in chapter 6.2.2. Beyond, a high level direct measurement approach was developed to

efficiently analyze premises of participating objects. This approach and taken measures are introduced in chapter 6.2.3. First, though, the general setup shall be discussed

6.2.1 General setup

Each method was applied in each country with the exception of cultural probes which could not be executed in Germany due to a lack of sufficient volunteers for participating in this user-centred activity. Data collection was completed in China in July 2007, in Korea between October and November 2007 and in Germany in December 2007. In all cases methods were applied by local researchers in local language. Besides ensuring comparable experience and formal training of researchers in regard to user-analysis method application, an application procedure was developed that allowed controlling for learning and individual researcher effects.

Learning effects that spill over the application of different methods mainly occur if one researcher is in charge of executing several sessions and methods sequentially. The more sessions and methods are applied the stronger learning effects can be expected to be. Thereby, experiences gained through the application of one method automatically bias the application of another one and make the comparison, of obtained results hardly reliable.

Individual **researcher effects** stem from the different researchers' personal disposition, experience and training, which can never be assumed to be completely equal across individuals. Thus, if one researcher is in charge of applying one method, learning effects that spill over to other methods would be prevented, the comparison of method results, however, would be strongly confounded by effects of the researcher's disposition. A **trade-off** between both effects was achieved by having always two researchers sharing two methods. By having always one researcher applying one half of a method's sessions and a second researcher the second half researcher effects were mitigated and learning effects reduced (ref. Figure 6.1).

Each researcher received an introduction into the method s/he would apply, into the product to be developed and into the procedure of method application. Hence, each researcher received a guideline for method application that covered procedural, methodological as well as content related issues.[8] All sessions were audio and video-taped and observed by at least one locale observer who recorded user-generated ideas and noticeable behaviours.

[8] Researcher guidelines can be found in Appendix C.

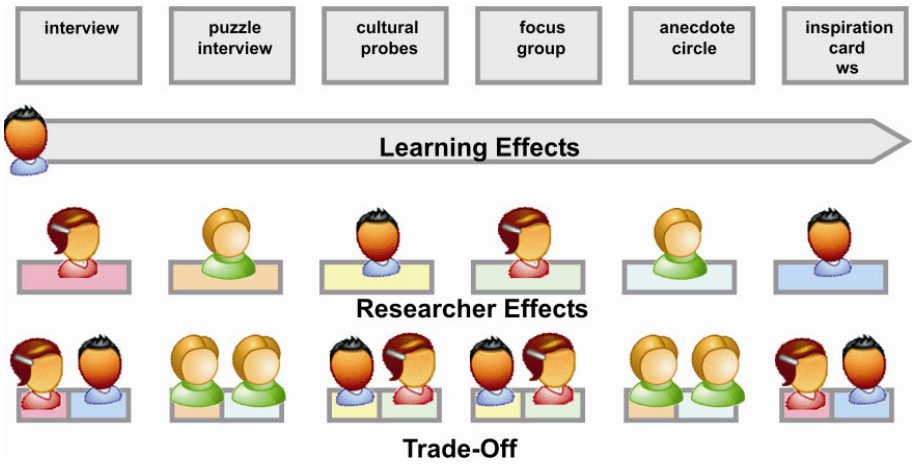


Figure 6.1: Researcher Effect – Learning Effect Trade-Off

For each single-user method 10 sessions were held in each country. Four sessions with about five participants each were conducted for each group method in each country. Participants were recruited among undergraduate and graduate students responding to public notices of the respective universities hosting this research. Convenient sampling method was applied to achieve the required sample sizes. Participation was rewarded; in China and Korea with money worth about two lunches at the respective university's cafeteria and with small gifts in Germany. In total 248 users participated. The samples' composition is briefly summarized in Table 6.1.

Table 6.1: Sample Composition – China, Korea, Germany

country	china							korea							germany						
method	int	puz	cp	fg	ac	ins	Σ	int	puz	cp	fg	ac	ins	Σ	int	puz	cp	fg	ac	ins	Σ
N	10	10	10	20	20	19	89	10	10	7	18	18	21	84	10	10	-	19	19	17	75
age (avg./stdv.)	22.89/2.002							22.66/3.493							23.47/2.012						
female/male	31/58							24/60							21/54						

int = interview; puz = puzzle interview; cp = cultural probe; fg = focus group; ac = anecdote circle; ins = inspiration card workshop; avg. = average; stdv. = standard deviation

Next to user-generated insights concerning the product to be developed, culturally sensitive user traits were collected from each participant to pin down the effects of cultural context on method application (ref. chapter 6.2.3).

6.2.2 Methods

Methods to be tested for cross-cultural applicability were chosen based on their distinct abstract method characteristics as well as on group factors. The intent thereby was to test three distinct single-user and three distinct group-methods. The objective for method-collection was to test always one standard method, i.e. a method that is representative for a conceptual basis method, one method that utilizes supporting artefacts for facilitating user-engagement and one method that provides a large degree of freedom for the user to exploit. Thus, the following single-user and group methods were selected.

Table 6.2: Overview – Applied Methodologies

distinctive trait	single-user method	abbreviation	group method	abbreviation
standard method	interview	int	focus group	fg
supporting artefact	puzzle interview	puz	inspiration card workshop	ins
high degree of freedom	cultural probe	cp	anecdote circle	ac

Semi-structured **interview**s served as a standard single-user method. As introduced in chapter 2.4.2.2 in semi-structured interviews a preset array of questions is provided, which the user is to answer freely. Semi-structured sessions were chosen over open ones in order to enhance the comparability of results obtained. Despite better result comparability to be expected by structured interviews, it was decided against their application as cultural effects of method application can be expected to be lower than on semi-structured ones.

The **puzzle interview** [Säd98], [Iko03] is based on the idea of supporting the user in selecting preferred product attributes by visualizing these attributes in terms of cards and represents a single user method utilizing supportive artefacts. Utilized cards should help overcoming the problem of linking specific product properties to expected usability and utility issues. Objectives are, first to make difficult-to-understand issues more tangible for the user, second to help him/her remembering issues, third to allow grasping the whole picture easier and to facilitate (re-)arranging and grouping as basis of reasoning. Generally cards are utilized with the intention of lowering required abstraction-levels and enhancing this method's playfulness. Applied cards can be subdivided into three categories: features (e.g. product representation), interface components (e.g. sizes of video-streams) and average length of sequence (e.g. number of clicks of a task) and are provided by the researcher. However, the user is free to develop own cards at any point in time. Procedurally puzzle card application is based on scenarios that comprise certain tasks the participant is to complete. Within the research on hand always two scenarios were given to the user with such general tasks as opening an account in a file-sharing platform.[9]

Cultural probes [Gav99] are based on in the idea of the user actively supporting the analysis of his/her living environment through visual documentation of artefacts, situations and people that are relevant for a certain issue from his/her perspective. The general topic as basis for data-gathering is preset and presented to the participants prior to getting out into the field. Data-collection is done by the user by documenting everyday situations by camera, which later are presented to the researcher. The timeframe of data collection usually is limited to a couple of days, but can vary significantly depending on research topic. During data gathering and documentation the investigator is not in direct contact with the user. In some cases, however, the researcher might interact with the user at certain times by phone, SMS or mail (e.g. to ask him/her taking pictures at a certain point in time). For the research on hand the time-frame for data-collection was limited to one week. Besides visual documentation with provided disposal or own digital cameras users were asked to take notes of relevant events in a diary. Before sending participants out into the field, a kick-off meeting was conducted during which the general research topic was introduced to them and cultural probe packages were handed out. The general task, given to the user to be fulfilled during the time of data gathering, was to document their

[9] For a detailed description of cards utilized and scenarios applied refer to Appendix C.

utilization of digital media and ICT. To keep participants engaged as well as to enhance the fun-level of this method users were given ad-hoc tasks they needed to fulfil once a day by SMS.

In terms of standard group method applied within this research, **focus group**s were chosen [Cou05], [Mor97]. A focus group is a group discussion method with preset problem-space lead by the researcher. S/he does not take an active part in the content's discussion. S/he merely gives directions and sparks ideas to ensure research-objectives to be met. S/he also guides the discussion and is responsible that each member contributes more or less equally to the discussion. Thus, the researcher takes the role of a moderator here.

Anecdote circles were chosen as a group method with a large degree of freedom [Cal04a], [Call04b]. An anecdote circle basically is storytelling within a group of 4 to 6 participants. Participants, if possible, stem from the same peer or cohort and, speak freely about their experiences made regarding a guiding and introductory research questions. These questions, however, are only posed at the beginning of the session by the researcher in order to get the storytelling started and to set the larger frame. The whole approach builds on the free and unforced participation of group members in any way they think is appropriate. Opposed to focus groups the goal of anecdote circles is not to elicit the participants' opinions or judgements, but their experiences made wrapped in anecdotes. Hence, stories are told to the members of the group – to each other – and not to the researcher. Consequently the role of the researcher, who is to be seen as merely a facilitator, is of utmost importance. It is his/her responsibility to initiate the storytelling process and to intervene if this method's basic rules are broken or the circle is stuck. The facilitator is to adhere to the following rules:

- Do not accept opinions, ask for experiences.
- Do not pose question after question, let participants take the lead.
- Do not question the reliability of a story; what is said is the truth.
- Do not simply ask people to tell stories, ask about their past experiences or experiences of friends or relatives, a story they heared or what happened in the past – try to find a hook.

The third group method applied were **inspiration card workshops** [Hal06]. An inspiration card workshop is a collaborative method, with 4 to 6 participants for combining findings from domain studies (Domain Cards) with sources of inspiration from applications of technology (Technology Cards). Besides various cards, this method utilizes papers, pens, clue and other materials, which are to become an intrinsic part of the dialogue, argumentation and means of expression to support inspiration. Inspiration cards consist of two types of cards for collecting information and consistently representing sources of inspiration. Cards are to be prepared by the researcher prior to conducting the workshop. One type of cards are technology-cards that describe a specific technology or application of one or more technologies. The others are domain-cards which show information of situations, people, settings, themes, etc. that are all context related. These two types of cards are combined by the participants within the workshop. However participants also are encouraged to create new cards at any point in time. Usually people will start by selecting a theme or situation from the domain-cards they whish to support or transform and combine them with technology-cards as a means to this end. To

communicate their results participants are asked to pin cards on posters and to write descriptions and brief scenarios on them.

Due to distinct **abstract method characteristics** of those six methods chosen one can expect culturally influenced premises of the object to affect respective methods' efficacy. Analysing the effect of method alignment with premises of participating objects being one major research objective of this empirical study, abstract method characteristics of methods applied require clarification. For establishing methodological profiles the taxonomy of user-centred methodologies (ref. chapter 5.1) was utilized and the multi-criteria decision-making method AHP was applied to judge each six methods expression on respective taxa. Based on the pair-wise comparison of various alternatives' expression in regard to specific criterions the AHP enables the reduction of a multi-dimensional comparison to a one-dimensional ranking based on the eigenvalue of established comparison matrixes.[10] Table 6.3 summarizes applied single-user and group methods' expressions in regard to conceptual basis, creativeness, interactivity and motivation. As already discussed, the taxonomy for characterizing user-centred methodologies established in chapter 5.1 must be understood as being relative and flexible. Thus not all taxa of Table 5.1 were utilized for the comparison on hand. The whole block of observation based methodologies as well as of external motivators were left out as none of the methodologies applied is related to observational approaches and external motivators were held equal across all methods applied. To enable a direct comparison of this rather small group of methodologies, detailed taxa for measuring interactivity were combined to the interactivity with artefacts in general, which can comprise supportive as well as private artefacts, with the group, which was composed of peers in all cases, and with the investigator.

Scores calculated via the AHP for the criterions creativeness, interactivity and motivation represent the relative achievement of each single method compared to the other two methods in its method-group. The sum of all method scores within one method-group always is 100. Single-user methods and group methods were used as separate method-groups as they significantly differ in the group-factor.

[10] For a detailed introduction into the AHP refer to [Saa96] and [Fig05]. Established comparison matrixes based on the researcher's judgement can be found in Appendix D.

Table 6.3: Categorization of Methodologies applied

Method			Single-User Methods			Group Methods		
			Interview	Puzzle Interview	Cultural Probe	Focus Group	Anecdote Circle	Inspiration Card Workshop
Conceptual Basis								
	Interview	Open		X			X	
		Semi-structured	X			X		
		Structured						
	Self-Report	Open		x	X		X	x
		Closed		X				X
		Paper & pen		X	X			X
		Technology supported			X			
		Real-time		X			X	X
		Summative, asynchronous			X			
Creativeness Score (%)			12.26	36.79	**50.95**	13.29	23.19	**63.52**
	Originality		14.29	**42.86**	**42.86**	10.00	30.00	**60.00**
	Fluency of Ideas		12.50	37.50	**50.00**	18.75	6.25	**75.00**
	Flexibility of Thoughts		10.00	30.00	**60.00**	11.11	33.33	**55.56**
Motivation Score (%)			13.13	**54.09**	32.77	16.39	35.83	**47.78**
	Content		15.79	**78.95**	5.26	20.00	20.00	**60.00**
	Challenge		12.50	**50.00**	37.50	16.67	**50.00**	33.33
	Curiosity		11.11	33.33	**55.56**	12.50	37.50	**50.00**
Interactivity (%)			**25.64**	**25.64**	15.38	31.37	34.00	34.63
	Artefacts		7.69	**53.85**	38.46	14.29	14.29	**71.43**
	Group		-	-	-	16.67	**66.67**	16.67
	Subject / Investigatorr		**69.23**	23.08	7.69	**63.16**	21.05	15.79

Interviews were based on semi-structured interviews. Compared to puzzle interviews and cultural probes, they scored rather low in regard to all taxa except for the taxon motivation in terms of content, where their score is marginally higher than the cultural probe's one but significantly lower than the score of puzzle interviews, and the taxon interaction with the researcher for which interviews scored the highest. Due to this effect they score equally high with puzzle interviews in terms of general interactivity. For all other superordinate levels, though, they score the lowest.

Puzzle interviews are based on a combination of open interviews with real-time, semi-closed self-reports which are paper and pen based. The application of specific cards and scenarios provide the user with specific goals and tasks to pursue with this method as well as means to completing them. This method's content thus holds more motivational factors than the content of both other methods. Nonetheless, this method's application must be understood as challenging for the user. In consequence, puzzle interviews excel through higher motivational scores than interviews or probes. Due to the high interaction of participants with supportive artefacts, i.e. puzzle cards, puzzle interviews and interviews score equally high in terms of interactivity.

Cultural probes are summative, open self-reporting techniques which combine paper and pen with technology based documentation. Being very open and flexible methodologies, probes must be understood as the most creative single-user method applied. At the same time, though, they provide only mediocre motivational hooks and their interactivity is rather low.

Figure 6.2 graphically summarizes applied single-user methods' expressions in regard to all taxa and thus provides a visual representation of respective method profiles. Superordinate level scores are not depicted.

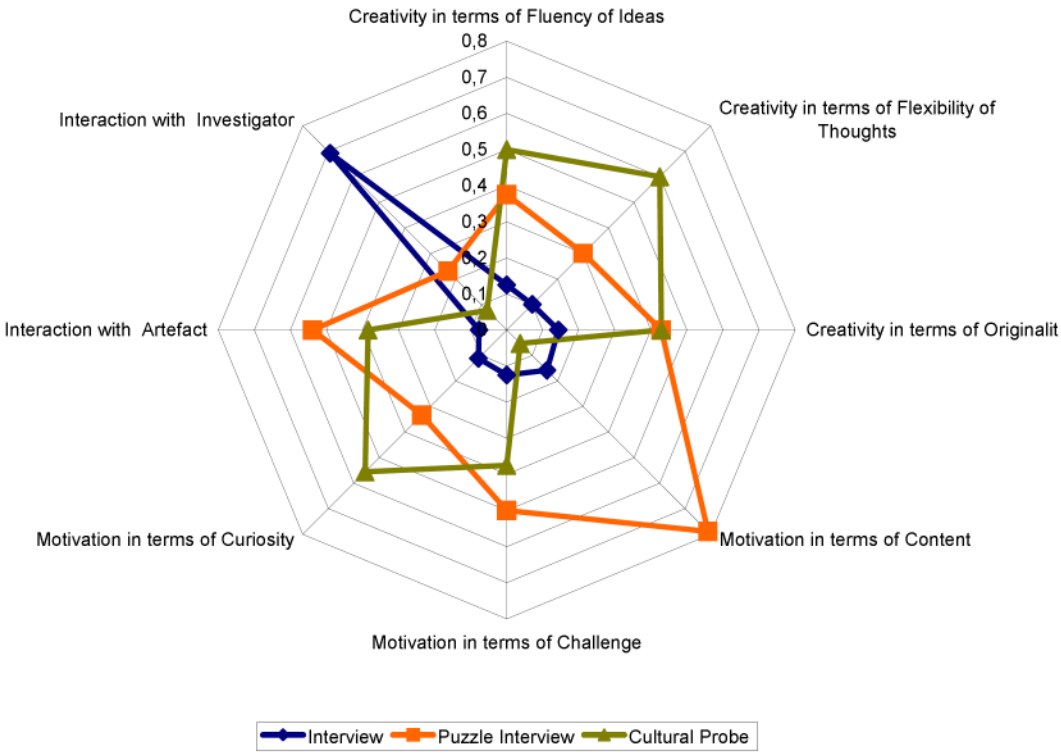


Figure 6.2: Characteristic Traits – Single-User Methods

Focus groups can be understood as semi-structured interviews in a group. This makes the whole process more dynamic and complex than regular interviews. Yet, the basic premises, i.e. that the investigator determines issues to discuss, are comparable. Consequently, just like interviews, focus groups score rather low in regard to creativeness and motivation compared to both other group-methodologies applied. All three methods score about equally strong regarding interactivity. Each method, though, scores significantly high regarding one particular interaction partner and comparatively low regarding other interaction partners what levels the overall interaction scores of all three methods. Compared to both other group methods, the investigator seems to be a significantly more important interaction partner in focus groups than in both other methods.

Anecdote circles are based on a combination of open interviews with open, real-time self-reporting techniques. This method scores rather mediocre regarding all taxa. Their loose structure, however, makes them a bit more challenging than both other methods and the major interaction partner clearly is the group. Compared to focus groups, anecdote circles enable a larger degree of freedom and seem more original what makes them more creative in general, however, significantly less than inspiration card workshops.

Inspiration card workshops can be assigned to the group of semi-open self-reporting techniques that are paper and pen based and in which thoughts, feelings and ideas are communicated in real-time. Compared to both other group methods, this is the most creative one. Primary interaction partners of inspiration card workshops are artefacts. This method's playfulness and the application of cards are to be seen as motivators in terms of the method's content. Beyond, this method seems more applicable to utilize the participant's curiosity as motivational factor than both other group methods.

Figure 6.3 graphically summarizes applied group methods' expressions in regard to all taxa and thus provides a visual representation of respective method profiles. Superordinate level scores are not depicted.

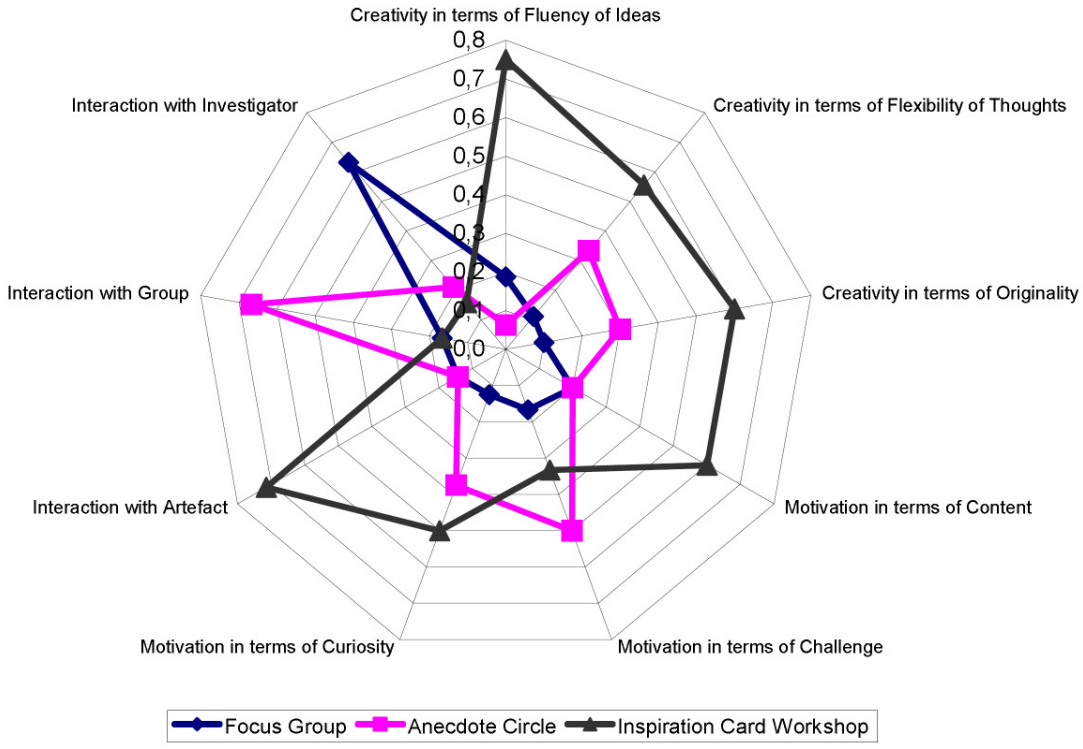


Figure 6.3: Characteristic Traits – Group Methods

With applied methodologies being differentiated and characterized the analysis of the object's premises on the method's efficacy can commence. Obviously this necessitates the measurement of respective premises.

6.2.3 Factors and Measures

In chapter 5.2.3 two generic approaches were postulated for analysing premises of the object. While the direct approach measures specific premises of the object directly through standardized psychological tests, the indirect approach aims at the in-depth analysis of factors influencing human action in the ASUCMA in order to drive object premises from that. Within this empirical study the **direct measurement** approach was pursued due to time and money constraints. Hence, only a subset of possible individual dispositions influencing method applicability could be considered. Limiting the scope of factors considered seemed necessary due to test inventories available and to keep efforts demanded from participants within a reasonable frame.

Factors to be considered were chosen based on effect-sizes that can be expected depending on cultural differences of considered samples and abstract characteristics of applied methods. Despite differing educational systems, the general educational background of utilized samples can be expected to be more or less levelled as all participants were recruited among university students. Therefore, and in alignment with contemporary research [Niu06], the sample's general level of cognitive abilities and deductive reasoning skills were assumed to be about even and not effected by culture. Consequently measures associated to general cognitive abilities were neglected within this study as it seemed more promising to focus on factors influencing motivational, creative and behaviouristic premises of participants.

Factors expected to provide valuable insights are summarized in Table 6.4. As major methodological differences of methods tested within this study can be traced back to motivational, creative and interactive demands of respective methods it seemed reasonable to limit the scope of factors to consider to premises of the object related to **creativity, hedonic emotions, communicativeness, socializing and engagement**. For economical reasons superordinate concepts, i.e. personality, motivation and value-system, of participating users were measured and utilized to derive premises from that, which either are compatible or conflicting with the respective factor. Within this study personality was captured using the NEO Five Factor Inventory (NEO-FFI), motivational premises were revealed through the Work Preference Inventory (WPI) [Ama94] and the users' value structures were mapped through the Schwartz Value Scale (SVS) [Sch92]. Measures were taken through standardized and, where possible, locally verified test inventories which will be discussed at length in chapter 6.5.1.

Thus, the creative disposition of a user, for incidence, can be associated to compatible premises of his/her personality, e.g. openness and extraversion, his/her value-system, e.g. self-direction and stimulation, as well as his/her motivational orientation, e.g. intrinsic motivation. At the same time other personality issues (e.g. consciousness), value-systems (e.g. conformity, tradition and security), as well as motivational premises (e.g. extrinsic motivation) are conflicting with a participant's creative disposition. Other factors considered within this study can be equivalently deconstructed. Table 6.4 provides an overview.

Table 6.4: Factors Considered and Measures Taken

Factor	Superordinate Concept	Measure	Premises	
			Compatible	Conflicting
creativity	personality	NEO-FFI	openness extraversion	consciousness
	value-system	SVS	self-direction stimulation	conformity tradition security
	motivation	WPI	intrinsic motivation	extrinsic motivation
(hedonic) emotion	personality	NEO-FFI	openness	neuroticism consciousness
	value-system	SVS	hedonism stimulation	conformity security
	motivation	WPI	enjoyment	

Factor	Superordinate Concept	Measure	Premises	
			Compatible	Conflicting
communicativeness	personality	NEO-FFI	extraversion openness	neuroticism
	value-system	SVS	self-direction	conformity tradition
(active) socializing	personality	NEO-FFI	extraversion agreeableness	neuroticism
	value-system	SVS	conformity universalism benevolence	achievement self-direction stimulation power
(active) engagement	personality	NEO-FFI	consciousness	neuroticism
	value-system	SVS	achievement self-direction	stimulation hedonism
	motivation	WPI	intrinsic motivation	

6.3 Research Questions

Starting from the overall question of in how far culture influences the applicability of different user-centred methods this analysis ventures into the identification and explanation of factors that facilitate as well as factors that hinder the application of certain methods in certain cultural contexts. Answers to these questions require some preliminary work in terms of the connection between individual traits of participating users and their cultural background. The first research hypothesis to be proven therefore is:

RH1: *Cultural samples as unit of analysis can be established and differentiated based on inter-culturally heterogeneous, but intra-culturally homogenous user-traits. Therefore, Chinese, Korean and German user samples can be differentiated from each other and cultural profiles of each sample can be established based on the users' personality traits, value structures and motivational preferences.*

Part one of this empirical study will be entirely devoted to the analysis of this particular research question and thus deliver the essential foundation in terms of clearly defined units of analysis for answering research questions closer to the actual application of user analysis methods. Some of these questions can be summed up by the following research hypothesis.

RH2: *Different national samples achieve different results with the same user-analysis method applied.*

RH3: *Within one national sample different user-analysis methods yield different results.*

RH4: *Effects of user-analysis methods on results obtained through user-analysis activities are not equally strong as effects of national culture.*

All three hypotheses directly address results obtained through user-analysis activities on national level. RH2 looks at the problem space from a cross-cultural perspective. The assumption is that due to varying personal premises of participants from different cultural backgrounds, of which some are rather beneficial and others rather hindering for the application of specific methods, the same method does not achieve the same method efficacy with each national sample. RH3 is focused on differences

regarding results of user-analysis activities that can be attributed to traits of different user-analysis methods applied. The analysis of these two hypotheses are expected to provide answers concerning the cultural efficacy of user-analysis methods, i.e. which national sample provides what kind of results and which provides results in higher quality in regard to a respective method, as well as the methodological efficacy, i.e. which method provides what kind of results and which provides results in higher quality in regard to a specific national culture, and thus pave the way to answering the overall research question. Analysis of RH4 in turn will enable judgements regarding observed effect-sizes of national culture and method-choice.

Established effects finally are to connect to possible causes on individual level for enabling the identification and explanation of facilitators and obstacles of cross-cultural user-analysis method application. This is the ratio behind RH5.

RH5: *Results of user-analysis activities can be connected to personal dispositions of participating users that are culturally sensitive.*

In conjunction with characteristic method profiles as introduced in chapter 6.2.2 and results of the analysis of RH1, RH5 finally allows the core question to be addressed.

RH6: *Culturally sensitive user traits facilitate the application of certain user-analysis methods whose profiles better fit a specific cultural context and hinder the application of certain user-analysis methods whose profiles do not fit this specific context.*

6.4 Data Analysis Approach

The line of argument for providing evidence of influencing factors of cross-cultural user analysis method application on individual level cannot be established straightforward, as the hypothetical construct culture is impossible to directly connect to this domain. **Components of the problem-space** relevant for this analysis are culture, user and user-analysis method as well as their interfaces in regard to method application. Of course, those components are mutually linked to the contextual environment of the user-centred activity. For analysing procedural method application requirements or for a dynamic analysis approach, i.e. the analysis of cultural facilitators of method application across time and/or situation, these mutual links of different components with the respective contextual environment definitely are to scrutinize. For this static analysis approach, i.e. one user at one place in time with one method, focused on methodological and cultural effects on individual level, however, it seems reasonable to scrutinize respective components, their characteristic traits and their mutual interfaces only. Figure 6.4 provides an overview of the defined problem-space and serves as a guideline for analysing respective effects.

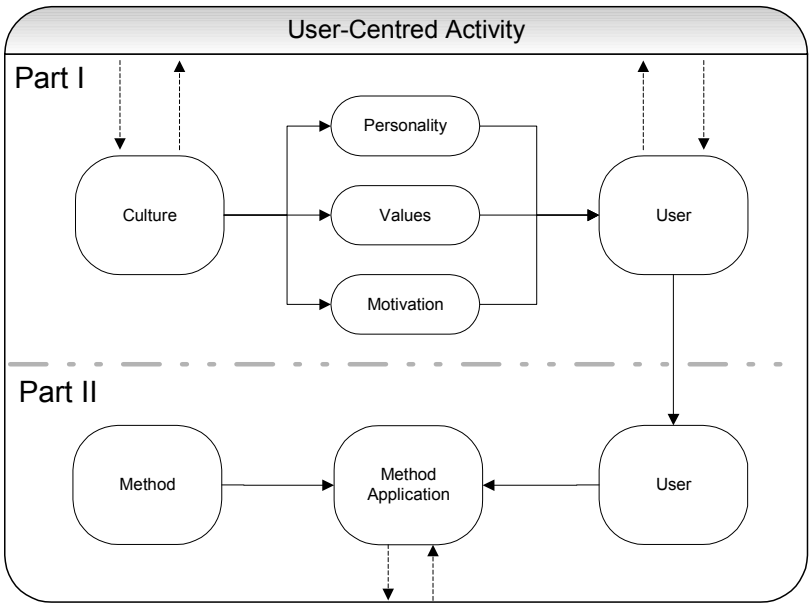


Figure 6.4: Causal Chain of Cultural Effects on Method Application

For providing evidence of **cultural effects** on individual level a two-staged analysis approach seems necessary for reasons already discussed above. In a first step, effects of culture on individual dispositions of participating users are to be established (RH1). Therefore, measures taken of culture sensitive user traits are to analyse in order to develop national profiles based on individual traits. This part of the conducted analysis serves **two purposes**. First of all, significant variations of culture sensitive user traits according to nation are to prove national samples to differ according to some common cultural profile on individual level. The second purpose is to apply developed cultural profiles on findings of this analysis' second part in order to identify cultural facilitators and obstacles of method application in respective cultural contexts (RH6).

In a second step, collected user-generated insights of applied methods are to analyse for **individual effects**, as induced by respective culture sensitive user traits (RH5), **methodological effects**, as a result of differing traits of methods applied (RH3), and **cultural effects** as observed in collected user insights according to nation (RH2). This part in turn serves at least four purposes. First, it allows the identification of connections between personal user dispositions and insights gathered through different analysis methods (RH5). Second, a national culture perspective enables the comparison of collected information across different cultures (RH2). Third, a methodological perspective enables the comparison of collected information across different methods (RH3). And fourth, a global perspective allows the comparison of cultural and methodological effects in order to identify effect-predominance (RH4).

Together, both parts enable the identification of facilitators and obstacles of cross-cultural user analysis application (RH6). Part one provides required national profiles for explaining individual and national effects established in part two inducing specific cultural facilitators and obstacles. Hence, method profiles as already introduced in chapter 6.2.2, enable the identification and explanation of methodologically induced facilitators and obstacles.

The straightforward analysis of collected user-generated insights through method applocation, however, is not possible as collected data conflates all these effects in one single data set. Thus, in order to reveal the impact of respective effects separately, data needs to be controlled for effects of the individual, culture and method, respectively. The objective thereby is to develop **separate data-sets**, of which each allows drawing clear conclusions about one of the influencing factors in question. This can be achieved by centring the data around different data-centres eliminating the effects of culture, method or both respectively.

In order to eliminate the impact of both culture and method from obtained results, collected data was centred around the mean of each established measure per culture and method ($\overline{X}_1^A$, $\overline{X}_1^B$, $\overline{X}_2^A$, $\overline{X}_2^B$). The elimination of methodological effects was achieved by centring the data around the mean of each method across cultures ($\overline{X}_1^{AB}$, $\overline{X}_2^{AB}$). Cultural effects were controlled for by exactly the opposite – centring data around the mean of each culture across methods ($\overline{X}_{12}^A$, $\overline{X}_{12}^B$). Finally and without any correction for method or culture data was centred around the mean of all methods and cultures in order to facilitate data comparison ($\overline{X}_{12}^{AB}$).The figure below provides an overview of the different data-centres.

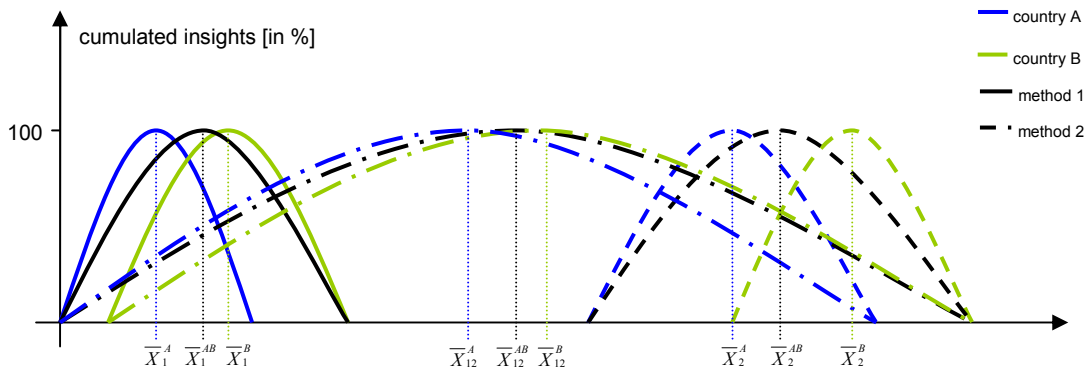


Figure 6.5: Data Centres

In sum four different data-sets were developed. One for which the effects of both culture and method are eliminated, a second one which is controlled for cultural effects, a third one for which the effects of different methods are eliminated and a forth one without cultural and methodological corrections. An overview of the different data-sets, what they are controlled for and what they are intended to analyse and measure provides Table 6.5 below.

Table 6.5: Centred Data Overview

label	centres	calculation	to control for	to analyse	to measure
M_N	$\overline{X}_1^A$, $\overline{X}_1^B$, $\overline{X}_2^A$, $\overline{X}_2^B$	$X_1^A - \overline{X}_1^A$, $X_1^B - \overline{X}_1^B$, $X_2^A - \overline{X}_2^A$, $X_2^B - \overline{X}_2^B$	method & culture	individual variance (intra- methodological & intra-cultural)	effect of individual on method efficacy
M_A	$\overline{X}_1^{AB}$, $\overline{X}_2^{AB}$	$X_1^A \wedge X_1^B - \overline{X}_1^{AB}$, $X_2^A \wedge X_2^B - \overline{X}_2^{AB}$	method	cultural variance (inter-cultural & intra-methodological)	relative cultural efficacy per method
A_N	$\overline{X}_{12}^A$, $\overline{X}_{12}^B$	$X_1^A \wedge X_2^A - \overline{X}_{12}^A$, $X_1^B \wedge X_2^B - \overline{X}_{12}^B$	culture	methodological variance (inter-methodological & intra-cultural)	relative methodological efficacy per culture
A_A	$\overline{X}_{12}^{AB}$	$X_1^A \wedge X_2^A \wedge X_1^B \wedge X_2^B - \overline{X}_{12}^{AB}$	-	general variance (inter-cultural & inter-methodological)	relative method efficacy across cultures

6.5 Part I

The purpose of part one is to establish profiles of national cultures based on culture sensitive traits of participating individuals (RH1). These profiles are necessary to allow the identification of cultural facilitators and obstacles of user analysis method application on individual level (RH6).

6.5.1 Variables and Measures

Personality

The participants' **personality** was captured through Cost and McCrae's NEO-FFI [Cos92]. This 60 item questionnaire measures an individual's characteristic values on the five most common and agreed upon distinct personality dimensions – the so called big five [Sch07] [McC02]. These dimensions are neuroticism, extraversion, openness, agreeableness, and conscientiousness. For all three distinct locales specific locally verified versions are available and were applied.

Neuroticism refers to an individual's receptiveness for insecurity, nervousness, anxiousness and sadness. People scoring high on the neuroticism scale are more vulnerable for these emotional states. Hence, they tend to be more receptive to stress and are less able to control their needs [Cos92]. **Extraverted** individuals generally can be described as active, gregarious, assertive, optimistic, people-oriented, warm-hearted and happy. They generally appreciate stimulation and seek out excitement. At the opposite end of the scale introverted individuals are situated. Those are rather reserved, less outgoing and less sociable [Cos92]. Individuals scoring high on the **openness** scale appreciate new experiences and change, are inquisitive and independent in their judgements [Cos92]. Furthermore, openness to new experiences is proved to positively correlate with creativity [McC87]. The fourth dimension, **agreeableness**, measures an individual's tendency of altruistic behaviour, empathy, generosity, helpfulness and friendliness. High scoring individuals tend to have a positive view of human nature in general and further appreciate cooperation and harmony [Cos92] [Gra97]. Finally **conscientiousness** measures in how far an individual can be described as throughout self-disciplined, careful, thorough, deliberate, reliable and hard working. Conscientiousness is proved to be one of the best predictors of performance in the workplace and relates to achievement. [Sal97] [Cos92]

The NEO-FFI and the more comprehensive NEO-PI-R are among the most common and best verified questionnaire-based personality measures in practice. The different traits' correlations to other constructs, such as creativity [McC87], performance [Sal97] and sociability [Cos92], are indicated and proved by a considerable amount of research. Hence, first research proving these dimensions' cross-cultural applicability and analysing personality distributions across cultures is available [All04] [Sch07].

Values

Individual **value orientation** was captured using the Schwartz Value Scale (SVS) [Sch92]. Based on a comprehensive and fundamental theory of human value orientation, this scale measures 57 (or 58, in the Chinese case) abstract basic human values. This scale's validity and reliability is widely established with various cultural groups around the world (N>75.000) on both, national and individual level [Sch95], [Sch06a]. As for the research on hand individual dispositions affected by culture that

influence user-analysis method application and not a cross-cultural comparison of nation-level value orientations are the primary objects of investigation, the scale was applied on individual level, here. At this level, 10 basic human values are measured that can be assigned to two broad dimensions [Sch03]. For all three distinct locales specific locally verified versions are available and were applied.

The first dimension, opposes the value-group **openness to change** that comprises the basic values hedonism, stimulation and self-direction, to the value-group **conservation**, which includes conformity, tradition and security. **Hedonistic** values are associated with pleasure and sensuous gratification for oneself (measured values are, e.g. pleasure and enjoying life). **Stimulation** is related to excitement and novelty seeking and the appreciation of challenges in life (measured values are, e.g. daring, a varied life, exciting life). **Self-direction** includes independent thought and action-choosing as well as creating and exploring preferences. Measured values are, e.g. creativity, freedom, independence or curiosity. **Conformity** on the contrary describes a person's willingness to follow social standards and to refrain from actions that might upset or harm others (measure are, e.g. politeness, obedience, self-discipline, etc.). **Tradition** values comprise respect, commitment and acceptance of customs and ideas that traditional culture or religion provide for the self. **Security** values are associated with a person's need for safety, harmony as well as stability of relationships, society and of the self.

The second dimension opposes **self-transcendence** values, i.e. universalism and benevolence, to **self-enhancement** values, i.e. power, achievement and once more hedonism which also is associated to the first dimension. **Universalism** values represent a persons understanding, appreciation, tolerance and protection of the welfare of all people and nature. Respective values are, among others, broadmindedness, wisdom, social justice and equality. **Benevolence**, on the contrary is limited to a person's preference for preserving and enhancing the welfare of people with whom one is in frequent personal contact, only. This comprises helpfulness, honesty, forgivingness, etc. **Power** refers to social status and prestige as well as ones preference for controlling or dominating people and resources. Measured values are, e.g. social power, authority and wealth. **Achievement** describes an individual's valuation of personal success and competence according to social standards.

These generic values are measured by having participants to complete a ranking of all 57 (or 58 in the Chinese case) specific values separately. Values are proved to relate to individual behaviour in terms of a set of motivational conflicts and congruities [Sch03]. This impact, however, is moderated by situational factors. The strength of this moderation is domain-dependant.

Motivation

The users' **motivational preferences** were captured through Amabile et al.'s Work Preference Inventory (WPI) [Ama94]. This 30 item inventory measures a participant's preference for intrinsic and extrinsic task motivation. This inventory was only available in English. Hence translation-back-translation procedures were applied to localize the inventory.

Intrinsic motivation is by and large fostered by traits of the individual as well as the task itself. Thus self-determination, competence, task involvement, curiosity and interest are the driving factors behind an individual's intrinsic motivation. In contrast, **extrinsic** motivation stems by and large from factors outside the individual and the task itself. Driving factors are rather related to evaluation, recognition

and competition concerns or stem form a focus on monetary rewards, tangible incentives and following dictates from others. Each scale can be further deconstructed into two subscales each.

These four subscales allow drawing a more specific picture of the origins of motivation for a given sample. On this, the intrinsic motivation scale can be further deconstructed into an enjoyment and a challenge scale; the extrinsic motivation scale into compensation and outward scale. Obviously the **enjoyment** scale relates to the fun and excitement the individual expects to receive from engaging in a task, whereas the **challenge** scale relates to motivation from mastering complex tasks and to the concept of flow [Mon04]. In contrary, the **compensation** scale measures the value of expected tangible incentives for an individual when engaging in a task while the **outward** scale captures the individuals preference for following expectations of others and social norms as motivating factor.

Already this high-level summary suggests a theoretical connection of this inventory with other user-traits relevant for user-analysis method application. For personality and creativity Amabile et al. established correlations based on a sample of 1363 students and 1055 adults [Ama94]. They found extrinsically motivated individuals to be rather ESTJ-types (extrinsic, sensing, thinking, judging) on the Myers-Briggs inventory. However, the opposite, intrinsically motivated individuals to be rather INFP-types (introverted, intuitive, feeling, perceiving), could not be confirmed. Instead measures of adult playfulness, cognitive curiosity and creativity could be confirmed to positively correlate with intrinsic motivation. A negative correlation between creativity and extrinsic motivation was also established.

6.5.2 Analysis

6.5.2.1 Cross-cultural perspective

Before establishing cultural profiles for further scrutinizing facilitators and obstacles of user-analysis application on the cultural level, it seems worthwhile to check whether collected user-traits have the power to explain cultural differences on national level or not. A conducted Kruskal-Wallis test across all three nations proves that the three samples clearly can be understood as representatives of three different populations for 18 out of 21 user traits collected. Traits for which the standard hypothesis of no difference among the samples cannot be rejected with a probability of more than 90% are ‘enjoyment’, ‘compensation’ and ‘self-direction’.

Possible explanations for especially those traits showing no significant variance across cultural samples can be found in the samples’ composition as well as in the applied recruitment procedure. Convenience sampling was applied to recruit students that freely responded to either online or public notices. These notices did not promise large monetary or other tangible incentives. Thus one can expect that all participants, indifferent from cultural background, are individuals that are rather intrinsically motivated to join this research. Hence, all participants were students and thus are likely to share some common traits, such as independence and self-determination. The rather homogenous perception across national groups of self- direction could be attributed to that.

Nonetheless the validity of collected personality-traits, value-orientations and motivation-preferences to build cultural clusters based on national samples seems convincing. To get a clearer understanding of these cultural clusters’ profiles through pair-wise comparison, Mann-Withney tests were conducted.

Table 6.6: National Culture and User Traits

	Trait	CN			KR			DE			K-W-Test	Mann-Withney-Test		
		N	R	Mean	N	R	Mean	N	R	Mean	CN vs. KR vs. DE	CN vs. KR	CN vs. DE	KR vs. DE
NEO-FFI	NEUROTICISM	89	2	-0.74	82	1	-0.53	75	3	-0.80	**0.010**	**0.031**	0.457	**0.003**
	EXTRAVERSION	89	3	0.16	82	1	0.36	75	2	0.27	**0.003**	**0.001**	**0.049**	0.158
	OPENNESS	89	1	0.05	82	3	-0.26	75	2	-0.06	**0.000**	**0.000**	**0.024**	**0.001**
	AGREEABLENESS	89	3	0.12	82	2	0.18	75	1	0.24	**0.037**	0.368	**0.005**	0.233
	CONSCIENTIOUSNESS	89	1	0.41	82	3	0.25	75	2	0.35	**0.062**	**0.019**	0.352	0.188
WPI-L1	INTRINSIC	89	2	0.19	82	3	0.12	75	1	0.30	**0.001**	0.265	**0.006**	**0.000**
	EXTRINSIC	89	2	-0.19	82	1	-0.08	75	3	-0.29	**0.001**	**0.053**	**0.021**	**0.000**
WPI-L2	ENJOYMENT	89	3	0.39	82	1	0.44	75	2	0.38	0.406	0.21	0.651	0.339
	CHALLANGE	89	2	-0.04	82	3	-0.25	75	1	0.22	**0.000**	**0.014**	**0.000**	**0.000**
	OUTWARD	89	2	-0.15	82	1	-0.09	75	3	-0.34	**0.000**	0.181	**0.000**	**0.000**
	COMPENSATION	89	3	-0.25	82	1	-0.09	75	2	-0.19	0.133	**0.047**	0.474	0.224
SVS	CONFORMITY	88	1	0.38	82	2	-0.22	75	3	-0.29	**0.000**	**0.000**	**0.000**	0.655
	TRADITION	88	2	-1.54	82	1	-1.23	75	3	-1.62	**0.022**	**0.053**	0.353	**0.009**
	BENELOVENCE	88	2	0.74	82	3	0.41	75	1	0.92	**0.000**	**0.005**	**0.082**	**0.000**
	UNIVERSALISM	88	1	0.06	82	3	-0.53	75	2	-0.27	**0.000**	**0.000**	**0.005**	**0.025**
	SELF-DIRECTION	88	3	0.51	82	1	0.70	75	2	0.52	0.108	**0.062**	0.865	**0.076**
	STIMULATION	88	3	-0.90	82	1	0.09	75	2	-0.11	**0.000**	**0.000**	**0.000**	0.119
	HEDONISM	88	3	-0.58	82	2	-0.60	75	1	0.65	**0.000**	0.886	**0.000**	**0.000**
	ACHIEVEMENT	88	2	0.37	82	1	0.69	75	3	0.20	**0.005**	**0.058**	0.103	**0.002**
	POWER	88	3	-1.59	82	1	-0.94	75	2	-1.18	**0.003**	**0.001**	**0.026**	0.234
	SECURITY	88	1	0.45	82	2	0.01	75	3	-0.12	**0.000**	**0.000**	**0.000**	0.543
	h_0 rejected with level of significance = 0.1										18 of 21	16 of 21	15 of 21	12 of 21

= level of significance < 0.1 = level of significance < 0.05 = level of significance < 0.01

R = Kruskal-Wallis Rank

CN = China; KR = Korea, Republic of; DE = Germany; K-S = Kolmogorov-Smirnov; K-W = Kruskal-Wallis

Conducted Mann-Withney-Tests comparing the Chinese, Korean and German sample once more confirm that the cultural construct East Asia does not hold and is invalid for cross-cultural comparisons [Fis02] [Oys02]. The variance between the Chinese and the Korean sample (significant variance in 16 out of 21 user traits) is at least as strong as between the Chinese and the German sample (significant variance in 15 out of 21 user traits) or the Korean and the German sample (significant variance in 12 out of 21 user traits), respectively. This indicates that in regard to measures taken the Korean sample is closer to the German than to the Chinese one.

While the Mann-Withney-Test alone does not tell anything about the kind of this variances and overlaps, a comparison of mean-values would provide more insights. However, a conducted Kolmogorov-Smirnov analysis proves that the distribution of a few measures is not reasonably enough normally distributed to enable the flawless comparison of mean-values. Thus, following remarks are based on a comparison of mean-values, however, supported by non-parametrical ranks assigned to each measure by Kruskal-Wallis tests. For profiling each of the three cultural samples in respect to the other two some significant variances among them will be pointed out in the following paragraphs.

Korea vs. China

In regard to 16 of 21 collected user traits the Mann-Withney test shows strong variances between the Korean and the Chinese sample. Interestingly the strongest **overlap** among both samples, meaning the smallest variance between them, can be found in the participant's valuation of hedonism. Both, Korean and Chinese users rather reject pleasure and sensuous gratification primarily for oneself. For all other **values**, however, significant **variance** between both samples can be confirmed. The strongest variances exist in the participants' valuation of security, stimulation, universalism and conformity. While the Chinese sample rather embraces conformity values and is about neutral in regard to universalism values, the Korean sample rather rejects both. Security seems to be an important issue for Chinese users while they rather reject stimulation values, i.e. excitement, novelty and challenge in life. Koreans are rather indifferent about both of these values.

The strongest variances in **personality** traits between both samples can be confirmed for extraversion and openness. While all three samples can be describes as rather extraverted the Korean scores the highest and the Chinese the lowest in average. Their variance is highly significant. Hence, the Chinese sample seems rather neutral in its openness score, the Korean sample, however, scores significantly lower.

In terms of **motivation** the Korean and the Chinese sample vary highly significant in their valuation of challenge as intrinsic and compensation as extrinsic motivator. Compensation is rather rejected by the Chinese sample while the Korean sample is rather neutral towards this motivational factor. For challenge the opposite is true.

China vs. Germany

For 15 of the 21 user traits collected significant variances between the Chinese and the German sample can be confirmed. This, surprisingly, suggests that the overlap between the Chinese and the German sample is bigger than between the Chinese and the Korean sample.

The strongest **overlaps** for which the standard hypothesis cannot be easily rejected exist for self-direction values and enjoyment. Both samples value self-direction almost equally strong. Less, however, than the Korean sample. As already shown by the Kruskal-Wallis test, do all samples value enjoyment as motivational factor. Yet, Chinese and German participants both score less than their Korean counterparts.

In regard to **value**-orientation the Chinese and the German sample show the strongest **variance** in valuating security, hedonism, stimulation and conformity. While the German sample values security and conformity less, Chinese participants perceive these traits as more important. Also, the perception of hedonistic values highly varies between both samples. This value is embraced by German users but rejected by their Chinese counterparts. Even though both samples show the same tendency towards valuating stimulation – both attribute rather less importance to this value – the Chinese sample seems significantly more refusal than the German one.

In terms of **personality** traits both samples differ in agreeableness scores the most. Both score positive on the NEO-FFI's agreeableness-scale, the German sample, however, significantly more than the Chinese.

Furthermore the samples show significant difference in terms of **motivational** factors. So does the German sample valuate intrinsic motivation significantly higher and outward motivation significantly less than the Chinese one. Hence, challenge seems to motivate the German sample. The Chinese sample, however, seems to be rather neutral about challenge as intrinsic motivational factor.

Korea vs. Germany

Mann-Withney comparisons of the German and the Korean sample support the rejection of the standard hypothesis for 12 of the 21 user characteristics collected. The strongest **overlaps** can be found in the users' valuation of conformity and security. In terms of conformity, both the Korean and the German sample, almost form one cluster that rather rejects this value as opposed to the Chinese sample, which rather embraces conformity. In regard to security the German sample appreciates this value significantly less than the Korean one.

In regard to **value** orientation the strongest **variances** between the two samples exist for achievement, hedonism, benevolence and tradition values. The strongest variance can be reported for hedonistic values which are rather rejected by both the Korean and the Chinese sample, but are quite embraced by the German one. Benevolence, i.e. care and enhancement for the welfare of ones in-group, is significantly more valued by the German than by the Korean sample. For achievement values, i.e. personal success and competence, the opposite applies. Even though all three sample value traditional values low, the German sample values tradition the least.

According to the Mann-Withney tests of **personality** traits the German and the Korean samples vary the most in neuroticism and openness. Thus, German participants seem to be significantly less neurotic and more open than their Korean counterparts.

Also, both samples do significantly differ in their preference for extrinsic and intrinsic **motivational** factors. More precisely the German sample appreciates challenge as intrinsic motivator significantly more and outward factors as extrinsic motivators significantly less than the Korean one.

6.5.2.2 Intra-cultural perspective

After national profiles of the three cultural samples have been mutually confined from a cross-cultural perspective major variances within each sample shall be highlighted. This seems necessary as analysis above can only be understood in terms of a general intra-cultural frame. Assumptions made only based on these broad cultural silos seem to hold only limited explanatory power to reveal culture and method specific facilitators and obstacles of method application. A richer picture can be drawn by considering intra-cultural variances, also. To trace back the origins of major variances existing for each cultural sample, factor analysis with all personality, value and motivation measures were conducted. Factors were extracted based on an eigenvalue larger than one and components were based on the VARIMAX rotated solution.

China

Table 6.7 shows that 76% of the **Chinese** sample's variance can be explained by eight distinct factors, chosen from the VARIMAX-rotated solution. The major measure on which individuals differ is their preference regarding intrinsic and extrinsic motivation. Users scoring high on this factor, thus are

clearly intrinsic motivated through challenge and enjoyment, but reject extrinsic motivation – particularly compensation oriented one. The next largest impact on sample variance have participants with high benevolence scores who reject achievement and power values at the same time. Third, a factor explaining about 8.8 % of the Chinese sample's variance could be established around a group of participants with high conscientious scores who reject outward compensation. The next stronger factor in explaining intra-cultural variances is a combination of high extraversion and low neuroticism scores among participants. The fifth biggest group represents those that highly value hedonism and self-direction but rather reject traditional values followed by participants that excel through their openness and rejection of conformity. Next a group that rather rejects security values and enjoyment oriented motivation can be identified. The smallest, but nonetheless significant group can be centred around individuals with comparatively high agreeableness scores.

Table 6.7: Intra-Cultural Variance China

Factor	Components		Variance %	Description
	compatible	conflicting		
1	○ intrinsic motivation ○ challenge ○ enjoyment	○ extrinsic motivation ○ compensation	20.092	valuation of intrinsic motivation through enjoyment and challenge seeking
2	○ benevolence	○ achievement ○ power	9.268	valuation of enhancing and preserving the welfare of one's in-group as opposed to personal achievement and power seeking.
3	○ conscientiousness	○ outward	8.817	valuation of conscientiousness and dutiful fulfilment of given tasks
4	○ extraversion	○ neuroticism	8.215	valuation of extraversion and emotional stability
5	○ hedonism ○ self-direction	○ tradition	8.058	valuation of the pursue of own pleasure and direction as opposed to following traditional standards
6	○ openness	○ conformity	7.717	valuation of openness and curiosity about new experiences as opposed to conforming to social norms
7	○ ./.	○ security ○ enjoyment	7.264	low valuation of maintaining safety, harmony and stability of relations as well as pursuing personal enjoyment as motivator
8	○ agreeableness	○ ./.	6.576	valuation of altruistic behaviour for maintaining social stability

Korea

73.8% of the **Korean** sample's variance can be explained by six distinct factors (ref. Table 6.8). The major stake of this sample's variance can be assigned to individual preferences for challenge and independence. This factor represents participants that appreciate self-direction, which are motivated by new challenges, but rather reject conformity values and following directions from others. The second larger group that can be confirmed by this analysis are individuals that highly strive for self-enhancement and show little sense for the self-transcendence values benevolence and universalism. Next a group of extrinsically motivated individuals can be identified that basically follows the money. Nearly as large is the impact of the group of people scoring high on self-direction and stimulation values while rejecting tradition and agreeableness. The fifth major group of respondents could be established around those who appreciate stability and security but reject hedonistic values. At the same time those can be described as very conscientious. Finally a group of extraverted individuals that score low on the neuroticism scale could be established.

Table 6.8: Intra-Cultural Variance Korea

Factor	Components		Variance %	Description
	compatible	conflicting		
1	○ intrinsic motivation ○ challenge ○ self-direction	○ extrinsic motivation ○ outward ○ conformity	19.047	valuation of intrinsic motivation through independent thought and action as well as challenge seeking
2	○ power ○ achievement ○ hedonism	○ universalism ○ benevolence	12.512	valuation of self-enhancement through achievement and power paired with own pleasure seeking
3	○ extrinsic motivation ○ compensation	○ intrinsic motivation ○ enjoyment	11.931	valuation of extrinsic motivation through tangible compensation
4	○ self-direction ○ stimulation	○ agreeableness ○ tradition	11.529	valuation of leaving the beaten path of tradition for seeking novelty and independence
5	○ security ○ conscientiousness	○ hedonism	9.733	valuation of dutifully fulfilling given assignments for retaining harmony and security
6	○ extraversion	○ neuroticism	9.059	valuation of extraversion and emotional stability

Germany

76.6% of the **German** sample's variance can be explained by seven distinct factors (ref. Table 6.9). The strongest impact on this sample's variance has a group of individuals that can be described as rather extraverted, who are generally intrinsically motivated through both, challenge and enjoyment but not through outward factors, such as group-pressure, and who score comparatively low on the neuroticism scale. The second factor can be established around participants that are rather individualistic, strive for personal success and rather reject traditional and universalism values. Third, a group of respondents can be established that by and large is motivated by tangible incentives. The next strongest factor for explaining intra-cultural variance can be attributed to a group of participants that are generally open but less conscientious and reject security values. The fifth factor represents power oriented individuals who reject benevolence and universalism values. Factor six represents a group of individuals who live up and appreciate social standards and reject personal pleasure seeking and enjoyment. Opposed to that, factor seven comprises individuals that score high on agreeableness and appreciate hedonistic values at the same time.

Table 6.9: Intra-Cultural Variance Germany

Factor	Components		Variance %	Description
	compatible	conflicting		
1	○ intrinsic motivation ○ challenge ○ extraversion ○ stimulation ○ enjoyment	○ extrinsic motivation ○ outward ○ neuroticism	22.390	valuation of intrinsic motivation through challenge and enjoyment paired with rather extraverted behaviour, excitement and novelty-seeking
2	○ self-direction ○ achievement	○ tradition ○ universalism	10.774	valuation of personal performance and achievement even at the expense of general welfare and tradition
3	○ extrinsic motivation ○ compensation	○ intrinsic motivation ○ challenge	10.559	valuation of extrinsic motivation through tangible incentives
4	○ openness	○ conscientiousness ○ security	9.363	valuation of openness to new experiences as opposed to conscientiousness and stability
5	○ power	○ benevolence ○ universalism	9.332	valuation of social status and prestige through power as opposed to in-group as well as general welfare

Factor	Components		Variance %	Description
	compatible	conflicting		
6	○ conformity	○ hedonism ○ enjoyment	7.365	valuation of maintaining and meeting social standards and expectations opposed to pleasure seeking and enjoyment
7	○ hedonism ○ agreeableness	○ ./.	6.838	valuation of pleasure and sensuous gratification and confirmative, altruistic behaviour

6.5.3 Results

The cross-cultural comparison of cultural sensitive user characteristics, i.e. personality, motivational orientation and value-system (ref. chapter 6.5.2.1), paired with the factor analysis for investigating intra-cultural variances of user-groups analysed (ref. chapter 6.5.2.2), enable the description and differentiation of national samples analysed. Conducted Kruskal-Wallis as well as Mann-Withney tests confirm that based on collected individual cultural orientations a differentiation between considered cultural samples, i.e. between the Chinese, the Korea and the German sample, can validly be undertaken (ref. Table 6.6). In other words, it could be confirmed that individual differences in regard to personality, motivation and value-structure show some degree of uniformity in their variance within national samples. Based on characteristic patterns of all three samples, one sample can always be defined relative to both other samples' characteristics. By and large this supports the research hypothesis RH1, in that collected measures of individual differences are valid constructs for the differentiation of cultural samples. The following figures depict the different samples national mean regarding respective measures.

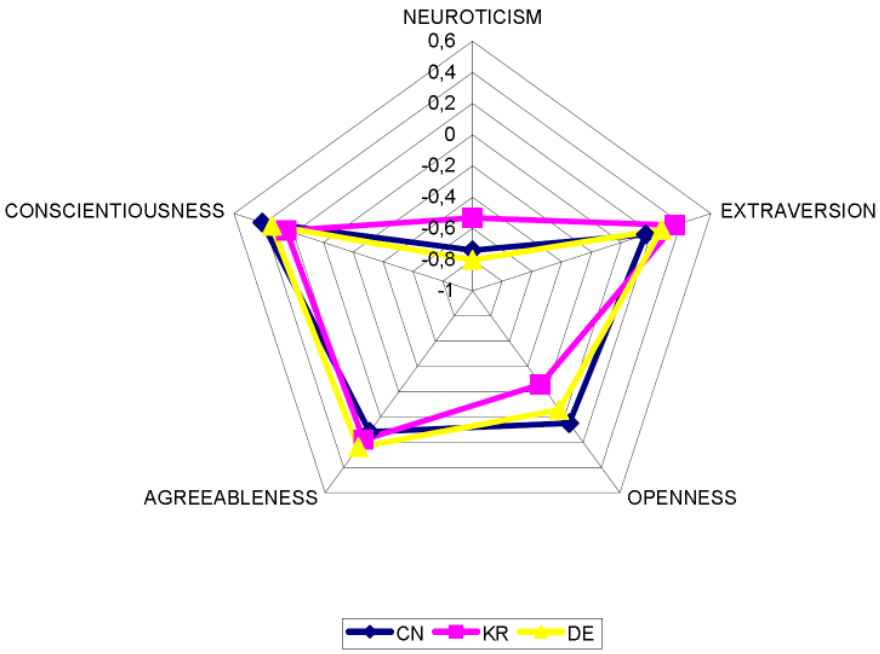


Figure 6.6: Mean Personality Scores (Cross-Cultural Perspective)

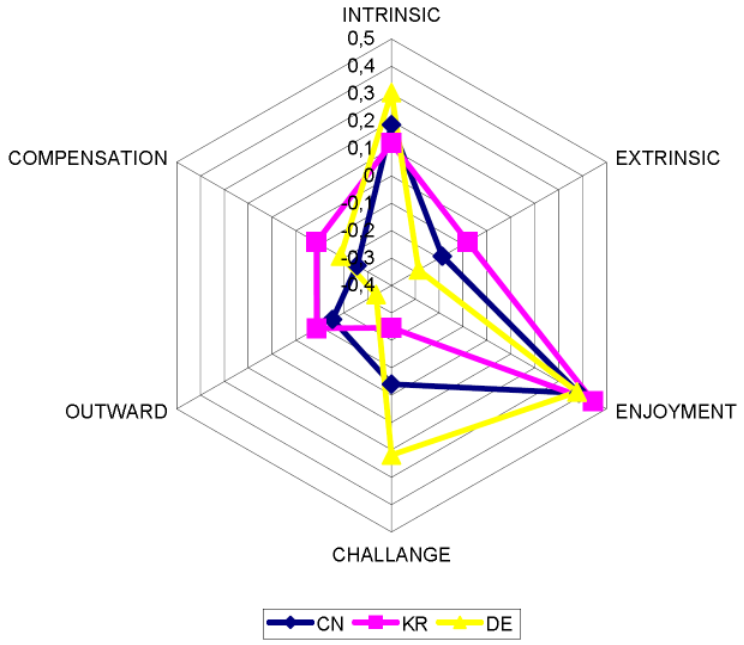


Figure 6.7: Mean Motivational Scores (Cross-Cultural Perspective)

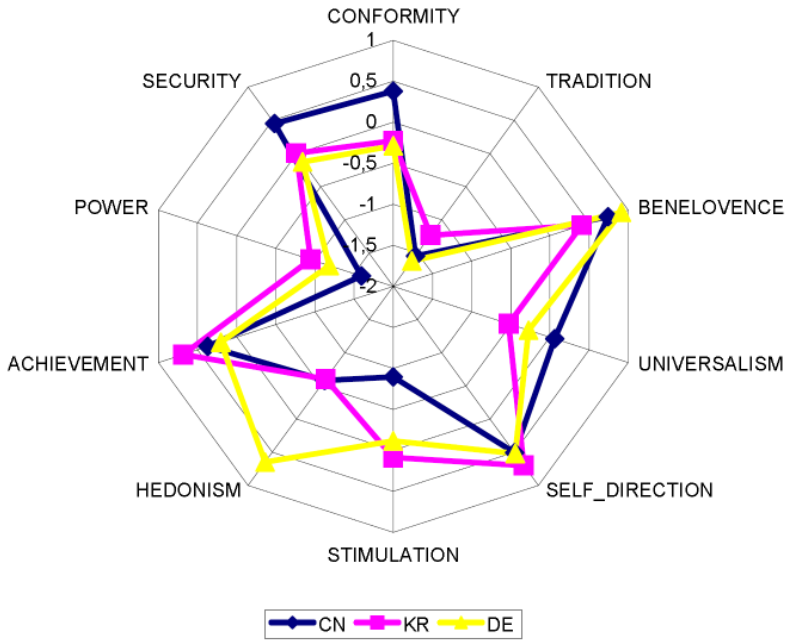


Figure 6.8: Mean Value Scores (Cross-Cultural Perspective)

Beyond, utilized measurements proved to be valuable tools for further defining intra-cultural groups. Thus, factor analysis results provide insights on individual variances on higher level that together make up the cultural-orientation of a national sample. In the following paragraphs both perspectives' findings, i.e. cross-cultural as well as intra-cultural ones, are combined to develop meaningful cultural profiles for each national sample from that.

China

Personality-wise the **cross-cultural** comparison proves the Chinese sample to be the most conscientious and open one of all three national groups tested. At the same time, however, Chinese participants are the least agreeable and extraverted ones (ref. Figure 6.6).

Regarding **motivational** preferences the analysis suggests that particularly tangible compensation as extrinsic motivator and enjoyment as intrinsic motivator are less appropriate for the Chinese than for the Korean and the German sample. Nonetheless, enjoyment seems to motivate the Chinese sample the most. A clear preference for a specific motivational orientation that would differentiate the Chinese sample from both other national samples, however, cannot be confirmed through cross-cultural comparisons. Thus, the intra-cultural analysis provides more insights (ref. Figure 6.7).

Compared to both other national groups, the Chinese sample is the one appreciating conservation **values**, such as security and conformity the most and openness to change, e.g. stimulation, self-direction and hedonism the least. Concerning self-enhancement and self-transcendence value orientations, the Chinese sample can be confined as rather embracing the latter, particularly universalism but rather rejecting the prior; at this, particularly power (ref. Figure 6.8).

Intra-culturally the largest share of the Chinese sample's cultural profile is defined by a group of individuals that embrace intrinsic motivation. Despite the Chinese sample scoring lower in regard to this orientation than the German and the Korean one, there seems to be a distinct group of Chinese participants particularly motivated by the fun and pleasure perceived when completing a task. Simultaneously, this group rejects tangible compensations. The appreciation of internal motivational orientation alone, though, does not differentiate the Chinese sample from both other national samples, as all samples are rather intrinsically motivated. Throughout the previous analysis data suggests that a certain level of intrinsic orientation is the underlying foundation for general participation and the common denominator of participants across cultures. The WPI's subscales provide additional insights for differentiating analysed samples and therefore are to pay special attention to.

What differentiates the Chinese sample further is a comparatively large group of individuals that highly appreciates benevolence values and rejecting achievement and power. Thus, one can expect the initially established culturally sensitive factor 'socialising' (ref. Table 6.4) to play a not minor role in the Chinese users' behaviour when participating in user-centred methodologies. Due to the comparatively large share of this group, socializing effects can be expected to be observed even though the Chinese sample does not score the highest in benevolence among the three national samples tested.

Hence, factor analysis, suggests the Chinese participants' comparatively high conscientiousness paired with the rejection of an outward oriented motivation to significantly influence method application. Participants, thus, can be expected not to be the most creative ones, but the ones who actively engage in method application and dutifully try to fulfil all tasks given to them.

The Chinese participants' level of extraversion, despite being lower than the Korean and the German samples' one, also can be expected to meaningfully influence method application. This trait, together with low neuroticism scores, can be expected to significantly influence the communicativeness of some Chinese participants.

Beyond, about eight percent of the Chinese sample's variance can be explained by a comparatively large group of participants rejecting traditional values and appreciating hedonistic as well as self-direction values. At the first glance, particularly the participants' valuation of hedonism seems to represent a cultural gap between the Eastern and the Western hemisphere, as by both Eastern samples this value-orientation was rather rejected, but by the German one embraced. The factor analysis shows, however, that for the Chinese sample this uniform rejection of hedonic values seems less homogenous than the cross-cultural comparison suggests.

Another, intra-cultural rather variant user premise is his/her orientation towards openness and conformity. While the cross-cultural comparison suggests the Chinese sample to be the most conformative one, there seems to be a comparatively large group of users rejecting conformity and embracing openness and new experiences. This can be expected to affect method application in terms of creativeness, pleasure-seeking and communicativeness.

Hence, factor analysis confirms the measures security-value orientation and enjoyment as motivational factor to contribute to a considerable amount of the Chinese sample's variance. Thus, despite the generally high appreciation of security values by the Chinese sample compared to both other national samples, there seems to exist some rather strong intra-national variance regarding this value, what seems worthwhile to recall when analysing respective effects on method application.

Finally, the low level of agreeableness of the Chinese sample compared to the Korean and especially the German one also seems to be less homogenous than the mere cross-cultural analysis suggests. Hence, despite the rather mediocre to low orientation towards agreeableness of the whole Chinese sample, there seems to be large enough group of people with this characteristic personality trait to induce about 6,5% of the overall samples variance.

Table 6.10: Cultural Profile - China

Trait		MEAN	Factor							
		CN	1	2	3	4	5	6	7	8
NEO-FFI	NEUROTICISM	↓				-0.70				
	EXTRAVERSION	↗				0.93				
	OPENNESS	→						0.79		
	AGREEABLENESS	↗								0.85
	CONSCIENTIOUSNESS	↑			0.87					
WPI-L1	INTRINSIC	↗	0.92							
	EXTRINSIC	↓	-0.92							
WPI-L2	ENJOYMENT	↗	0.62						-0.53	
	CHALLANGE	→	0.73							
	OUTWARD	↓			-0.62					
	COMPENSATION	↓	-0.85							
SVS	CONFORMITY	↑						-0.69		
	TRADITION	↓					-0.59			
	BENELOVENCE	↗		0.50						
	UNIVERSALISM	→								
	SELF-DIRECTION	↗					0.64			
	STIMULATION	↓								
	HEDONISM	↓					0.65			
	ACHIEVEMENT	↗		-0.83						
	POWER	↓		-0.71						
	SECURITY	↑							-0.84	

Korea

From **cross-cultural** perspective the Korean sample can be confined as being highly extraverted and quite agreeable. Despite being positively conscientious, the Korean sample can be expected to be the least dutiful one of all three national samples tested. Equivalently, with all three samples significantly rejecting neurotic **personality** traits, the Korean sample with the weakest rejection-score must be understood as the most neurotic one. Furthermore, the Korean group can be confined as the one with the lowest openness scores and the only one rejecting this personality trait (ref. Figure 6.6).

Regarding this samples' **motivational** orientation, conducted analysis proves the Korean group to be the one that, compared to both other samples, embraces intrinsic motivation the least and extrinsic motivation the most. This group particularly perceives challenges as not being very motivational. Hence, tangible compensations and outward motivation affirms the Korean sample to have a higher motivational potential than both other national samples do (ref. Figure 6.7).

Beyond the Korean sample can be confined as the one embracing self-enhancement **values** the most and self-transcendence values the least. At the same time, the Korean sample must be understood as the one which embraces values related to openness to change the most and rather rejects conservation values (ref. Figure 6.8).

Intra-culturally the largest factor determining the Korean sample's profile is a group of participants appreciating challenges and self-direction, while particularly rejecting outward pressure as motivational source and conformity as value-orientation. Thus, one should expect a large part of the Korean sample being rather open to new experiences and challenges which in turn should serve this sample's creative potential. What surprises and contradicts this finding is the Koreans sample's low openness score, which seems difficult to explain.

Another factor highly determining the Korean sample is its high appreciation of self-enhancement values. Thus, a large share of the Korean cultural profile must be attributed to high valuation of achievement, power and hedonism combined with a low valuation of benevolence and universalism. Thus, one can expect Korean participants to perceive the participation in user-centred methodologies more competitive than both other samples. Consequently, one should expect observable effects of this orientation on socializing and engagement behaviours of participating users.

The intra-cultural analysis of the Korean sample's major variance holds another interesting insight regarding extrinsic motivational preferences. Hence, a comparatively large group of this sample highly appreciates tangible compensation and rejects enjoyment as motivational factors. Combined with rather low incentives provided within this study, one can expect this motivational orientation to affect the participant's efforts when engaging in user-centred activities.

The fourth largest share of the Korean samples profile can be attributed to some participants' high valuation of openness to change paired with a rejection of traditional values and agreeableness. Just like the first factor, this orientation of the Korean sample is likely to positively affect its creative potential.

Another intra-culturally relevant factor shaping the Korean cultural profile can be attributed to a group of individuals that can be characterized as dutiful with a high appreciation of stability of life who rather reject hedonistic pleasure seeking. This characteristic is likely to negatively influence the hedonic emotional orientation of the Korean sample. In consequence, one can expect this group to be the rather immune against effects of a method's fun-level.

Finally, a small, but nonetheless significant group of participants who can be characterized as rather extraverted and rather not neurotic can be intra-culturally identified. Concerning factors influencing method application one can expect this orientation of the Korean sample to positively influence its creative potential.

Table 6.11: Cultural Profile - Korea

Trait		MEAN	Factor					
		KR	1	2	3	4	5	6
NEO-FFI	NEUROTICISM	↘						-0,80
	EXTRAVERSION	↑						0,82
	OPENNESS	↓						
	AGREEABLENESS	↗				-0,79		
	CONSCIENTIOUSNESS	↗					0,74	
WPI-L1	INTRINSIC	↗	0,76		-0,60			
	EXTRINSIC	↘	-0,76		0,60			
WPI-L2	ENJOYMENT	↑			-0,83			
	CHALLANGE	↓	0,87					
	OUTWARD	↘	-0,85					
	COMPENSATION	↘			0,81			
SVS	CONFORMITY	↓	-0,53					
	TRADITION	↘				-0,77		
	BENELOVENCE	↗		-0,55				
	UNIVERSALISM	↓		-0,80				
	SELF-DIRECTION	↑	0,52			0,50		
	STIMULATION	→				0,53		
	HEDONISM	↓		0,62			-0,55	
	ACHIEVEMENT	↑		0,62				
	POWER	↘		0,77				
	SECURITY	→					0,68	

Germany

From **cross-cultural** perspective the German sample can be confined as the most agreeable and the least neurotic one. Regarding all other **personality** traits the German sample scores somewhere between the Korean and the Chinese extremes (ref. Figure 6.6).

Concerning its **motivational** orientation, the group of German participants can be attested to be the most intrinsically motivated one, who particularly appreciates challenges and rejects outward pressure. This clearly differentiates the German sample from the Chinese and the Korean one (ref. Figure 6.7).

Compared to both other national samples German participants particularly rejected conservation **values** and can be described as rather open to change; less however, than their Korean counterparts. What clearly differentiates this sample from the Chinese and the Korean one is its comparatively high appreciation of hedonistic values. Equally to the Chinese sample, this sample values self-enhancement less than self-transcendence. This, however, clearly biased towards benevolence over universalism values (ref. Figure 6.8).

The **intra-cultural** analysis of factors constituting the profile of the German sample revealed that the largest share of inter-individual differences can be assigned to a group of individuals that are rather extraverted, who seek challenges and enjoyment as the major intrinsic motivational factors and who highly valuate novelty and stimulation. This group scores comparatively low on the neuroticism scale

and particularly rejects outward extrinsic motivation. Considering identified components constituting the participants' creative potential one can expect effects of this comparatively large group to be positively observed in the application of methodologies with rather high creative demands.

The second largest cluster of individual differences could be established around a group of individuals who can be described as success-oriented and independently self-directed. They rather reject tradition and conservation and care less about the welfare of all people and nature. Thus, one could confine a part of the German profile to be constituted of individuals who individually strive for personal success and do not care much about broader aspects of human prosperity and traditional values. Such traits can be expected to positively influence active method engagement and negatively affect socializing endeavours.

Another comparatively consistent trend in the participants' individual orientation can be confirmed for a group of participants that are by and large motivated by tangible compensations, e.g. money, and for whom particularly new challenges do not represent appropriate incentives. This premise can be expected to negatively influence overall endeavours when participating in user-centred activities.

Further the German profile can be confined through a group of individuals who can be described as being open to change, less conscientious and showing a rather low appreciation for security and stability. These traits are likely to contribute to the German sample's creative potential as well as its gratification of hedonic emotions.

Another group sticking out are participants who highly appreciate social status and prestige but rather reject benevolence and universalism values. This group seems to be related to the performance oriented group identified behind factor two. Opposed to individuals grouped under factor two, though, this factor's participants seem to be rather driven by prestige and social recognition and not by individual self-direction. One can expect this factor to exert some influence on the German sample's socializing behaviour and thus influence method application.

Further, a constituting group of the German sample's profile can be confined through a comparatively high valuation of conformity and rejection of hedonistic values and enjoyment. While the previous factor's influence on the sample's socializing behaviour can be expected to be rather negative, this factor can be expected to positively influence German participant's socializing behaviour according the social standards.

Finally, a comparatively small group of homogenously oriented individual differences can be associated to participants who can be described as empathic, generous and helpful and who appreciate hedonistic values. This group one can expect to positively influence the German sample's socializing and engagement behaviour.

Table 6.12: Cultural Profile - Germany

Trait		MEAN	Factor						
		DE	1	2	3	4	5	6	7
NEO-FFI	NEUROTICISM	↓	-0,82						
	EXTRAVERSION	↗	0,78						
	OPENNESS	→				0,84			
	AGREEABLENESS	↑							0,77
	CONSCIENTIOUSNESS	↗				-0,73			
WPI-L1	INTRINSIC	↑	0,77		-0,56				
	EXTRINSIC	↓	-0,77		0,57				
WPI-L2	ENJOYMENT	↗	0,58					-0,59	
	CHALLANGE	↑	0,67		-0,54				
	OUTWARD	↓	-0,83						
	COMPENSATION	↓			0,85				
SVS	CONFORMITY	↓						0,67	
	TRADITION	↓		-0,81					
	BENELOVENCE	↑					-0,76		
	UNIVERSALISM	↓		-0,51			-0,64		
	SELF-DIRECTION	↗		0,76					
	STIMULATION	↘	0,52						
	HEDONISM	↑						-0,62	0,61
	ACHIEVEMENT	→		0,58					
	POWER	↓					0,77		
	SECURITY	↘				-0,71			

Influencing Factors

To clearly differentiate the three national samples analysed regarding factors influencing method application as introduced in chapter 6.2.3, average cultural orientations of measures taken on cross-cultural level and intra-cultural profiles established are finally combined to relative overall scores of each sample regarding creative potential, hedonic emotional orientation, communicativeness as well as socializing and engagement premises. This necessitates, first, the combination of taken personality, motivation and value measures constituting influencing factors and, second, the connection of intra-cultural factors determining a culture's profile with cross-cultural scores limiting each respective measures potential expression in regard to both other cultural samples.

The combination of individual premises to factors influencing method application for each country is done based on Table 6.1. Thereby, scores of compatible measures (M_k) were simply summed-up and of conflicting measures (M_k) subtracted to calculate the respective overall factor (E_c):

$$E_c = \sum u_k * M_k$$

u = (1 for compatible; -1 for conflicting measures)

k = (neuroticism, extraversion,…,power, security), and

c = (China, Korea, Germany)

Formula 6.1: Calculating Superordinate Influencing Factors Based On Personality, Motivation and Value Measures

The combination of national sample scores, representing the basis of cross-cultural comparisons, and intra-national factor loadings, representing different facets of the cultural profile, requires some mathematical preparations. Concerning intracultural factors constituting national profiles, in a first step, variance explained by identified factors (F_i) are to normalize for each sample through the following calculation:

$$F_i^N = \frac{F_i}{\sum F_j}$$

i, j = 1, 2, 3, …, n, and

n = number of factors identified

Formula 6.2: Normalizing National Factors Based On Factor Analysis Results

Then, intracultural factor loadings (f_i) for each factor's components are multiplied with normalized factor variances (F_i^N) as well as with the relative power of each respective measure based on cross-cultural comparisons (x_k^c) and finally summed-up across all factors for each measure (M_k):

$$M_k = \sum (f_{ik} * F_i^N * x_k^c)$$

k = (neuroticism, extraversion,…,power, security),

i = 1, 2, 3, …,n,

n = number of factors identified, and

c = (China, Korea, Germany)

Formula 6.3: Calculating Gross Measures Based On Normalized National Factors, Component Leadings and Relative National Power

The relative power of respective measures (x_k^c) was obtained through pairwise comparisons of each country's Kruskal-Wallis rank (ref. Table 6.6) compared to both other countries' ranks. The pairwise comparison of ranks was chosen over the also possible pairwise comparison of national means, as established Kruskal-Wallis ranks enable a more robust and less ambiguous comparison for each score. Utilizing the AHP, established relative comparison matrixes for each measure then were transformed into relative and normalized rankings, which finally can be connected to intercultural factor loadings.[11] Finally, based on combined measures, overall influencing factors can be calculated. Figure 6.9 provides an overview.

[11] Comparison-matrixes and calculated relative powers can be found in Appendix D.

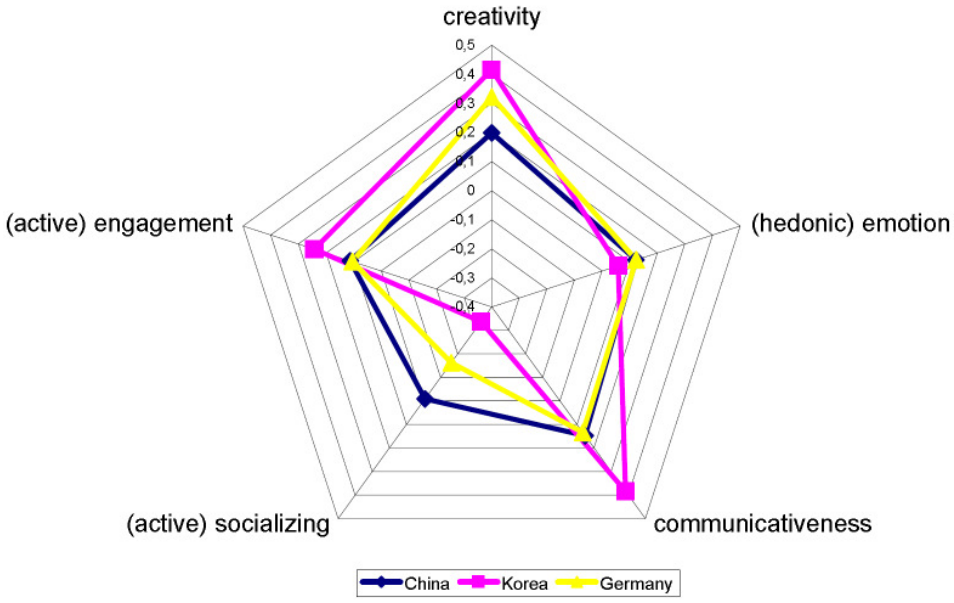


Figure 6.9: Cultural Profiles – Influencing Factors

6.6 Part II

General purpose of part II of this empirical study is to analyse individual, cultural and methodological effects on the application of different user analysis methods. Therefore, collected user insights first were codified according to different measurement dimensions. To enable the analysis of the individual, the methodological and the cultural level separately this data then was corrected for various interfering effects, as discussed in chapter 6.4.

6.6.1 Variables and Measures

To enable the quantitative analysis of collected user-generated insights, these were codified by the researcher in regard to five different dimensions. Based on these dimensions, judgements regarding method efficacy and quality of obtained results on different levels of analysis can be made. An overview of dimensions and measures considered is given in Table 6.13.

On superordinate level the general **amount of ideas generated per user** was measured as a gross and overall variable determining method efficacy. This dimension, however, is too broad to allow judgements of the efficacy regarding specific research goals. Therefore, further dimensions on which collected user insights differ were established. The dimension **information source** relates to the origins or knowledge bases from which the user draws to generate ideas. These can be personal experiences, opinions, or actions. The second dimension **information target** applied evolves around the different objects that can be addressed by the user. On a first level of distinction these can be objects located in the user's or the product's environment, i.e. the **context** of product use, or the **product** itself. Context and product can be further split up into specific objects that might be addressed. In regard to context this can be issues regarding prospective users, the specific domain in which the product is to be employed, the competitive environment and infrastructural issues. Regarding the product one can separate between functions, design features as well as unique selling propositions (usp). The third dimension enables the comparison of concerns that are conveyed by

user-generated insights. Opposed to the prior three dimensions these cannot be seen independent to the product to be developed. Specific concerns the **content** of collected user insights might convey for the product on hand are general lifestyle issues, particular product or services referred to by the user, design preferences, or functional, communicational and informational requirements.

Besides the efficacy of tested methods regarding the elicitation of general and specific user-analysis goals, the quality of collected user insights which is related to obtained results utility for motive satisfaction was measured within this empirical study. The **quality** of gathered user ideas was rated in regard to three separate measures, i.e. uniqueness, relevance and clearness. Thereby, each collected user-idea was rated against all three measures on a three-point-scale (low, medium high). Insights scoring low regarding **uniqueness** represent rather common sense that could have been known without user involvement. In contrast, high scoring comments represent new ideas created by the user or experience and actions communicated that could have not been revealed without the user's input. User-generated insights rated low on the **relevance** scale did not show any relation to the problem-space, i.e. user-centred product development. High rated ones, though, proved to have high utility for this purpose. Ideas were rated as low in regard to **clearness** if their communication was so unclear that the further processing of information must be judged as highly difficult and ambiguous. High scoring insights, though were clearly communicated in a way that allows easy and straight-forward further processing of given information.

Table 6.13: Efficacy and Quality Measures - Overview

Dimension/Measure				Description
# of Ideas				general amount of insights generated per user
Information Source			experience	information collected based on communicated experiences of the user or of one of his/her peers
			opinion	information collected based on personal opinions or statements
			action	information collected based on communicated user behaviour or action
Information Target	Level 1		context	information collected addressing the product's and/or the user's context
			product	information collected addressing features of the product to be developed
	Level 2	Context	user	information collected addressing features of the user (lifestyle, personal dispositions, actions, etc.)
			domain	information collected addressing issues concerning the specific domain in which the respective product is expected to be employed to
			competitor	information collected addressing the competitive landscape of the respective product to be developed
			infrastructure	information collected addressing infrastructural issues (e.g. broad-band quality/penetration, electricity, etc.)
		Product	unique selling proposition	information collected addressing features of the product that allow its distinction in the market place (usually a combination of functional and design features)
			function	information collected addressing functional features of the product
			design	information collected addressing design features of the product
Content			lifestyle	information collected conveying insights about the users' living habits, preferences, actions and behaviours
			product / service referred to	information collected conveying references to particular products or services existing in the market place
			design preferences	information collected conveying the users' preferences in regard to product design
			functional requirements	information collected conveying the users' preferences in regard to functional requirements of the product
			communicational requirements	information collected conveying the users' preferences in regard to features related to communicational issues of the product
			informational requirements	information collected conveying the users' preferences in regard to requested information supply as provided by the product

Dimension/Measure		Description
Quality	uniqueness	information quality in terms of novelty, creativeness and extraordinariness
	relevance	information quality in terms of proximity to product development
	clearness	information quality in terms of unambiguity, comprehensibility and directness

6.6.2 Analysis

After generated user insights were codified (ref. chapter 6.6.1) and different data sets enabling the separate analysis of different effects calculated (ref. chapter 6.4), the actual analysis can commence. Prior to this, however, codified but not centred insights will be briefly and generally summarised (ref. chapter 6.6.2.1). Then, the detailed analysis of each adjusted data-set will follow (ref chapter 6.6.2.2 to 6.6.2.5).

6.6.2.1 General Analysis

Within this general analysis collected data will be briefly summarized. Beyond, will be tested whether researcher and learning effects were successfully mitigated by the developed application procedure (ref. chapter 6.2.1).

6.6.2.1.1 Collected Data

Data on which this analysis builds on was collected within 30 interview sessions in China, Korea and Germany (10 for each country), 30 puzzle interviews in China Korea and Germany (10 for each country), 17 cultural probe applications (10 in China and 7 in Korea), 12 focus groups, 12 anecdote circles and 12 inspiration card workshops each with 4 sessions per country. In total 3560 ideas and comments of 248 users were collected during that time and codified according to the five dimensions introduced above resulting in a set of 81880 measurements. Overall, interviews yielded 646 user-comments, puzzle interviews 1416, cultural probes 135, focus groups 638, anecdote circles 404 and inspiration card workshops 321. Based on this, one can already presume single user methods to produce user-insights more efficiently than group methods, as those generated more insights with less participants; 2197 insights with 77 users compared to 1363 insights with 171 user.

The analysis based on absolute data, though, provides only limited insights, as for pragmatic reasons not exactly the same number of participants per session could be maintained. Hence, the following remarks will be based on the average amount of data generated per user. The general analysis of average number of ideas generated per user (ref. Table 6.14) further backs the initial assumption that single user methods worked more efficiently than group methods, as the prior produced in average about 25.6 ideas per user and the latter only about 8 ideas per user. This trend can be observed across all national samples (ref. Appendix E) and thus clearly indicates a first methodological effect on method application. Further impacts of methods applied can be observed when comparing information sources participants drew from and information targets users aimed at when engaging in different methods.

Table 6.14: General Results – All Countries

country		ALL								
method[1]		int	puz	cp	fg	ac	ins	all	single	group
# of Ideas[1]		21.533	47.200	4.843	11.171	7.115	5.789	14.355	25.558	7.971
I-S	experience[1]	1.533	0.000	0.367	1.158	2.185	0.255	1.052	0.727	1.193
	opinion[1]	14.700	46.567	1.433	8.193	3.060	3.149	10.871	21.265	4.766
	action[1]	5.300	0.033	3.043	1.821	1.869	2.385	2.359	3.366	2.012
I-T 1	context[1]	14.767	4.167	4.776	6.481	6.406	5.299	6.976	8.919	6.018
	product[1]	6.767	42.433	0.067	4.690	0.709	0.490	7.306	16.439	1.953
I-T 2	user[1]	7.567	0.400	2.405	2.733	2.289	2.873	3.048	4.028	2.614
	domain[1]	5.633	3.567	1.905	2.534	2.865	2.269	3.065	4.027	2.544
	competitor[1]	1.100	0.000	0.233	1.012	0.309	0.018	0.472	0.504	0.450
	infrastructure[1]	0.533	0.167	0.233	0.255	0.035	0.119	0.210	0.371	0.140
	usp[1]	1.533	1.200	0.000	1.538	0.269	0.020	0.746	0.911	0.602
	function[1]	4.033	41.200	0.000	2.698	0.211	0.490	6.246	15.078	1.123
	design[1]	1.133	0.067	0.067	0.402	0.228	0.000	0.298	0.439	0.211
Content	Lifestyle[1]	9.433	1.633	3.300	4.511	5.203	3.602	4.762	5.512	4.421
	Product/ Service[1]	1.767	0.033	1.452	1.402	0.732	0.188	0.903	1.345	0.772
	Design Pref.[1]	2.333	0.867	0.167	1.085	0.213	0.000	0.706	1.165	0.433
	Functional Req.[1]	8.300	41.000	0.314	5.475	1.247	1.199	7.802	16.610	2.614
	Communic. Req.[1]	2.567	1.967	0.000	1.527	0.564	1.017	1.254	1.511	1.023
	Informational Req.[1]	7.467	4.833	0.176	2.742	0.626	0.892	2.468	4.178	1.398
Quality	uniqueness[2]	1.090	1.041	0.381	1.189	0.952	0.544	0.914	0.916	0.891
	relevance[2]	1.197	1.940	0.306	1.318	0.801	0.514	1.019	1.209	0.878
	clearness[2]	1.095	1.037	0.365	1.044	0.870	0.703	0.901	0.908	0.873

int = interview; puz = puzzle interview; cp = cultural probe;
fg = focus group; ac = anecdote circle; ins = inspiration card workshop
[1] average number of occurrences per user
[2] average score on a scale between 0-2, with 0 =very low and 2 = very high

One method deserving some additional remarks due to its overall weak performance are cultural probes. Not only is this the method with the absolutely lowest amount of ideas generate per user, the application of this method was extremely cumbersome what the fact that only a total of 17 participants could be recruited for this method proves. The only country for which the initially planned 10 sessions of this method could be carried out was China. In Korea merely 7 of the initially 10 recruited participants showed up and only 2 returned their probes with additional comments. For Germany it was simply impossible to recruit 10 people that were willing to participate in this study for a period of one week with little to no compensation for that. This lets already presume that some procedural adjustments of this method, such as significantly higher incentives or shorter engagement periods seem necessary to ensure this methodology's successful and useful application. Recalling the Chinese sample's comparatively high conscientious scores (ref. chapter 6.5.3) in combination with experienced problems regarding the application of cultural probes, already suggests some cultural or individual effect of this method's efficacy. Those will be discussed at length in chapter 6.6.2.2 and chapter 6.6.2.3, respectively.

Prior to this, the general analysis is to complete. The following remarks address the general data level across all national samples. The same line of argument could be applied separately to each national sample's data, too. However, as cultural efficacy and methodological efficacy are analysed in-depth in chapter 6.6.2.3 and chapter 6.6.2.4, the general analysis here will be limited to gross-data considerations only, in order to limit the scope of this summary. Respective tables and figures for each cultural sample can be found in Appendix E, though.

Across nearly all methods, user comments were mainly based on own opinions. One exception worth mentioning are cultural probes, of which about 60% of generated insights were based on reported actions. In contrast, nearly 100% of ideas gathered through puzzle interviews were based on the participants' personal opinions. As expected, anecdote circles made the user to provide more information conveying experiences made than any other method. Figure 6.10 below provides an overview.

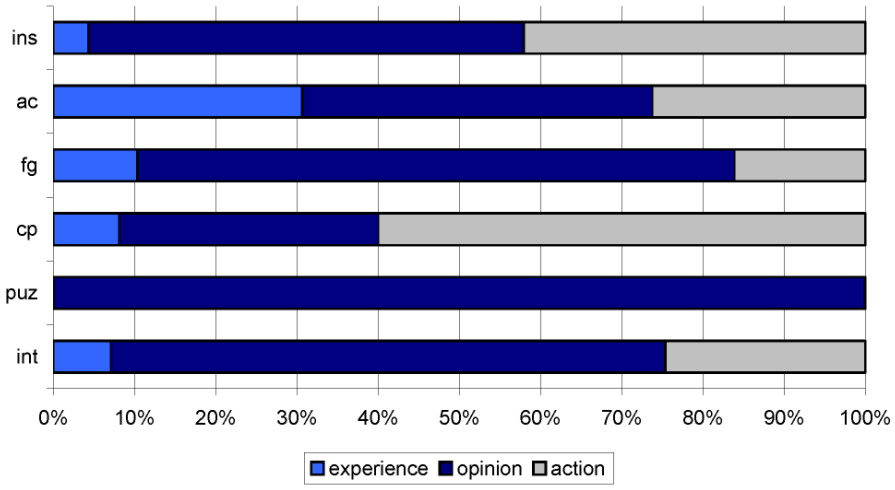


Figure 6.10: Information Source and Method – All Countries

Figure 6.11 depicts the distribution of collected user ideas on context and product. Puzzle interviews and cultural probes represent two extreme cases. For the prior more than 90% of collected user insights are focused on the product while the latter almost exclusively revealed insights about the context. Anecdote circles and inspiration card workshops generated an almost equal ratio with about 90% of gathered insights concerning the context of use and only 10% the product itself. Hence about 31% of user ideas generated through interviews and 42% of those generated through focus groups directly address the product to be developed.

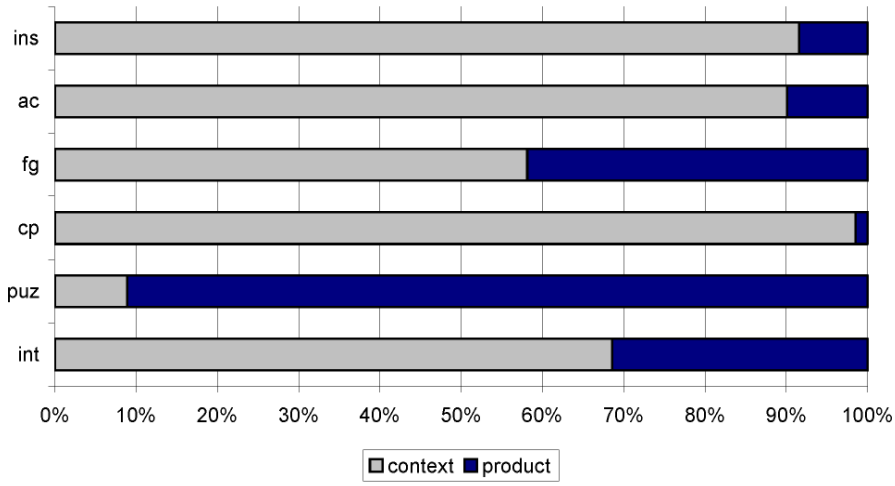


Figure 6.11: Information Target and Method – All Countries

The broad dimensions of 'product' and 'context' can be further deconstructed in insights about particular features of the product to be developed and the context of use, i.e. into unique selling proposition, function and design or user, domain, infrastructure and competitor, respectively. The following graph (ref. Figure 6.12) reveals the ratio of user insights addressing specific product features. In general, the table shows that by far more ideas related to functional issues than to designs or unique selling propositions were generated. One striking exception seems to be cultural probes, for which 100% of collected ideas were related to design-issues. This finding, however, is to be taken with a pinch of salt as cultural probes only marginally generate insights directly related to the product at all (ref. Table 6.14). On the other hand, inspiration card workshops as well as puzzle interviews nearly exclusively provided insights about specific functions. As both methods utilize cards representing concrete functions (among other things), it thus does not surprise that participating users, produced more insights that are related to them.

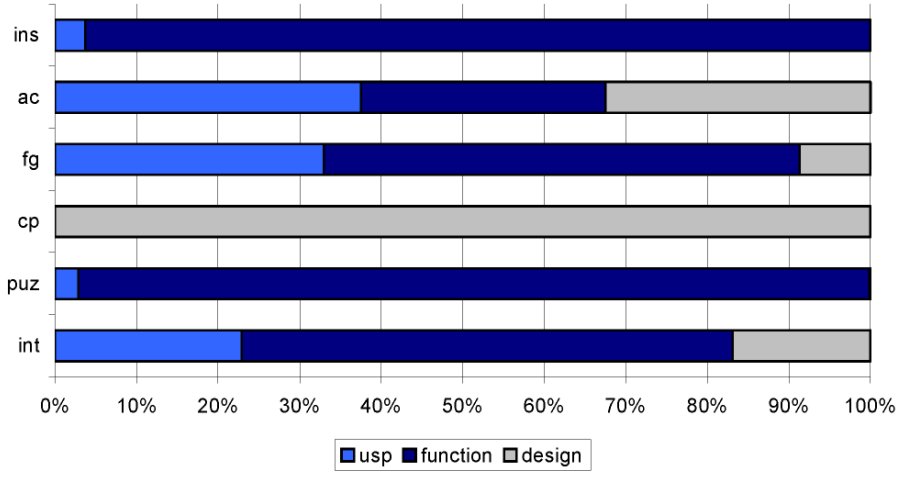


Figure 6.12: Information Target (Product-Level) and Method – All Countries

Figure 6.13 provides an overview about the general data's distribution regarding information targets within the product's and the user's context. Looking at the graph it strikes that across all methods user- and domain-related issues were addressed significantly more often than issues concerning competing products, services or their infrastructure. Particularly results collected through puzzle interviews are

strongly biased towards domain-related issues; nearly 85% of all user-comments addressing the context belong to this group. Analogous, to product-related findings of cultural probes above, though, this finding is to be taken with a pinch of salt, due to the fact that users participating in respective sessions hardly referred to the context of use at all. Insights regarding competitors were best covered by focus groups and second best by interviews, i.e. standard methods applied. Issues addressing the user were best covered by inspiration card workshops, followed by cultural probes and interviews.

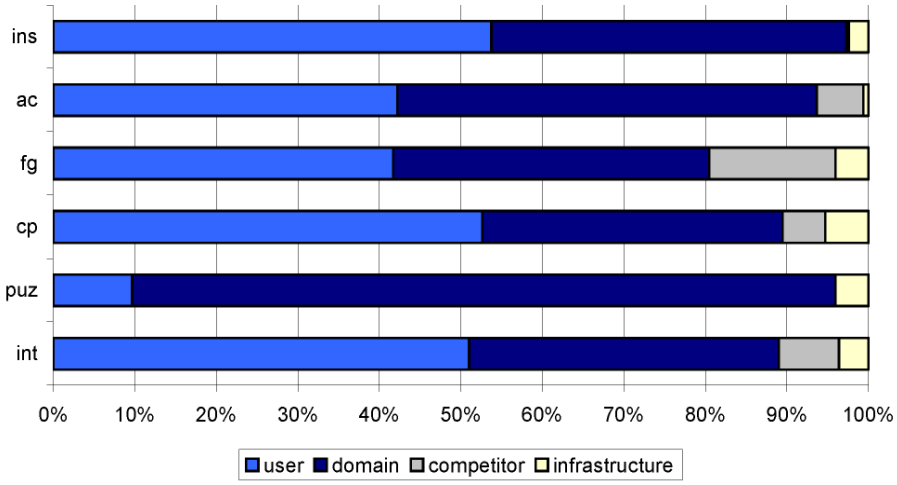


Figure 6.13: Information Target (Context-Level) and Method – All Countries

Despite the possibility of identifying some general tendencies of distinct user-centred methodologies already on this high level of analysis, this general data inspection does not enable the detailed and separate analysis of methodological effects as induced by abstract method traits (ref. chapter 6.2.2), cultural effects that can be attributed to the cultural orientation of samples tested (ref. chapter 6.5.3) and effect of the individual disposition of participating users. These issues will be addressed in depth within the following chapters. Prior to this, however, possible effects induced by researchers supporting this study shall be analysed.

6.6.2.1.2 Researcher Effects

Despite procedural measures taken to minimize effects due to different researchers applying respective user-analysis methods (ref. chapter 6.2.1), researcher effects cannot be ruled out completely. To reveal in how far gathered data was affected by this, Kruskal-Wallis tests were conducted for each method and national culture (ref. Table 6.15).[12] Established findings, however, are difficult to pin down, as variances in collected data are always influenced by individual participants and thus cannot simply be assigned to researchers only.

Especially variances of insights collected through anecdote circles, a method which is primarily lead by participants themselves, strongly depends on actual experiences made and communicated by each user sample. Thus it seems convincing that established researcher effects for this method are likely to vanish if more group sessions were conducted.

[12] Results of cultural probes are based on insights which were generated without any direct contact between researcher and participant. Thus, this method is left out here. Hence, on request of participating researchers inspiration card workshops in China were carried out by a group of two researchers together, as one alone did not feel sufficiently trained to complete this rather demanding method. Consequently, researcher effects cannot be analysed for this method in China.

For interviews and focus groups, all researchers were given the same outline of questions and focus areas. Established effects thus are likely to be the result of different emphasises laid by different researchers as well as participating users. The same explanation applies to puzzle interviews, too.

Surprisingly, researcher effects can be observed within the Chinese sample significantly more often than in the Korean and German one. The reason for this is hard to pin down. One explanation could be that the Chinese group of researchers was more heterogeneous in terms of experience in applying user analysis methods than the other ones.

Despite these established effects, the following research is expected to provide reliable and valid results. So is the primary concern of centring collected data as described above to weaken or eliminate existing obscuring effects while strengthening those effects that are the respective object of investigation. Through this, already weak researcher effects will be further reduced and the reliable analysis of effects in question further enhanced.

Table 6.15: Researcher Effect

		China					Korea					Germany				
		int	puz	fg	ac	ins	int	puz	fg	ac	ins	int	puz	fg	ac	ins
# of Ideas		0,11	0,06	0,04	0,05		0,66	0,75	0,27	0,22	0,17	0,40	0,91	0,97	1,00	0,38
I-S	experience	0,57	1,00	0,97	0,08		0,32	1,00	0,39	0,05	0,98	0,04	1,00	0,77	0,56	0,73
	opinion	0,04	0,06	0,02	0,06		0,64	0,75	0,71	0,34	0,16	0,46	0,91	0,84	0,93	0,77
	action	0,52	1,00	0,25	0,88		0,59	0,26	0,18	0,03	0,72	0,34	1,00	0,19	0,25	0,52
I-T 1	context	0,34	0,09	0,67	0,17		0,75	0,74	0,56	0,21	0,17	0,60	0,32	0,42	0,74	0,56
	product	0,04	0,18	**0,00**	0,02		0,47	0,20	0,37	0,79	1,00	0,07	0,83	0,75	0,32	0,13
I-T 2	user	1,00	0,05	0,16	0,35		0,40	0,73	0,15	1,00	0,65	0,83	1,00	0,36	**0,01**	0,81
	domain	0,29	0,18	0,03	0,42		0,40	0,78	0,88	0,26	0,16	1,00	0,32	0,72	0,03	0,14
	competitor	0,90	1,00	0,48	0,04		0,56	1,00	0,87	0,55	1,00	0,05	1,00	0,18	0,94	1,00
	infrastructure	0,44	0,22	1,00	0,32		0,68	0,26	1,00	0,67	0,86	0,51	1,00	0,68	1,00	1,00
	usp	0,34	1,00	**0,00**	0,07		0,60	0,41	0,10	0,74	1,00	0,48	1,00	0,30	0,48	0,35
	function	0,05	0,34	0,03	0,28		0,43	0,37	0,29	0,34	1,00	0,20	0,83	0,28	0,91	0,55
	design	0,73	1,00	0,56	0,28		0,53	0,49	0,33	0,08	1,00	0,03	1,00	0,65	0,44	1,00
Content	Lifestyle	0,09	0,03	0,82	0,06		0,81	0,65	0,80	0,10	0,43	0,07	0,32	0,19	0,48	0,85
	Product/ Service	0,90	1,00	0,26	0,69		0,60	0,26	0,66	0,55	1,00	0,37	1,00	0,54	0,19	0,25
	Design Pref.	0,51	0,73	0,05	1,00		0,48	0,29	0,62	0,05	1,00	0,19	1,00	0,65	0,21	1,00
	Functional Req.	0,17	0,74	**0,00**	0,50		0,95	0,88	0,13	0,15	0,14	0,68	0,83	0,84	0,12	0,07
	Communic. Req.	0,29	0,66	0,47	0,05		0,46	0,42	0,78	0,73	0,86	0,28	1,00	0,51	0,28	1,00
	Informational Req.	0,34	0,04	**0,01**	0,15		0,63	0,56	0,31	0,34	0,31	0,35	1,00	0,36	0,79	0,62
Quality	uniqueness	0,17	0,75	0,15	0,62		0,32	0,43	0,38	0,12	0,18	0,46	1,00	0,12	0,17	0,25
	relevance	0,46	0,75	0,40	0,16		0,83	0,47	0,94	0,02	0,33	0,92	0,32	0,26	0,12	0,77
	clearness	0,53	0,74	0,67	0,65		0,15	0,13	0,24	0,04	0,38	1,00	0,88	**0,01**	0,14	0,66

= level of significance = 0.01 = level of significance = 0.05

int = interview; puz = puzzle interview; fg = focus group; ac = anecdote circle; ins = inspiration card workshop

6.6.2.2 Analysing Individual Variance

For analysing effects of the individual on method-application, collected data was centred around the mean of insights generated per method and culture (ref chapter 6.4). In consequence the impact of culture and method on the collected measures' mean is eliminated for this analysis. Therefore, distributions have the same centre of $\overline{X}$ = 0.0 and variances in the distributions' standard deviations

can directly be attributed to individual performances. Through this, the impact of culture, method and individual disposition can directly be connected to this individual performance, and is analysed within the following chapters.

6.6.2.2.1 Method, Culture and Individual Variance

To identify effects of culture or method on method application on individual level, Kruskal-Wallis tests with national culture and method as separate grouping-variables were conducted. Tests were run across all methods as well as for single-user and group methods separately.

As expected, national culture proves not to be a valid factor for explaining variances in obtained results on individual level of analysis (ref. Table 6.16). Even tough the overall sample's variance regarding insights about infrastructure can be connected to culture, the separate analysis of single-user and group methods abates this result. Thus, and without jumping to conclusions one can already expect that this impact is not due to an effect of culture how it is used and was defined within this research. Established correlations seem rather to be the result of deviating focuses of group and single-user methods. On top of this, comparing the average ratio with which Chinese, Korean and German participants referred to infrastructure one realizes that Chinese referred to infrastructure the most, followed, by Germans and Koreans (0,493 vs. 0,102 vs, 0,075 insights per user; ref. (ref. Appendix E). Thus this effect does not seem to stem from some sort of cultural effect, such as a stronger situationism or contextualism of East Asians as in this case Korea should score way higher (e.g. ref. [Mar91], [Tri95] [Nis03]). This result rather reflects the concern of users from nations with weaker IT-infrastructure about a product with high demands on that.[13]

[13] Korea ranks fourth on the OECD's statistics on countries with highest broadband penetration. Germany is rank 17 and China does not reach the top 30. [OEC08]

Table 6.16: Culture & Method for individual variance

		Culture			Method		
		Σ	s	g	Σ	s	g
# of Ideas		0,891	0,653	0,879	0,840	0,747	0,485
I-S	experience	0,661	0,628	0,322	0,225	**0,009**	0,941
	opinion	0,610	0,402	0,556	0,460	0,571	0,267
	action	0,425	0,140	0,707	0,641	0,671	0,760
I-T 1	context	0,771	0,791	0,940	0,952	0,755	0,911
	product	0,920	0,275	0,836	0,062	0,344	0,011
I-T 2	user	0,973	0,349	0,962	0,941	0,412	0,883
	domain	0,803	0,829	0,955	0,911	0,760	0,857
	competitor	0,585	0,975	0,351	**0,003**	0,342	**0,000**
	infrastructure	0,064	0,339	0,161	0,144	0,411	0,129
	usp	0,285	0,541	0,352	**0,000**	0,527	**0,000**
	function	0,653	0,412	0,127	0,036	0,320	0,042
	design	0,701	0,317	0,312	**0,000**	0,453	**0,000**
Content	Lifestyle	0,852	0,651	0,993	0,970	0,802	0,843
	Product/Service referred to	0,605	0,291	0,262	0,108	0,106	0,401
	Design Pref.	0,511	0,781	0,467	0,041	0,680	**0,000**
	Functional Req.	0,915	0,437	0,994	0,104	0,525	0,049
	Communicational Req.	0,492	0,660	0,253	0,576	0,890	0,179
	Informational Req.	0,697	0,821	0,570	0,469	0,261	0,470
Quality	uniqueness	0,614	0,938	0,754	0,776	0,251	0,808
	relevance	0,864	0,869	0,935	0,957	0,480	0,798
	clearness	0,724	0,565	0,591	0,760	0,745	0,923

= level of significance = 0,1 = level of significance = 0,05
= level of significance = 0,01
Σ = all methods; s = single-user methods; g = group methods

The impact of user-analysis methods, however, seems more relevant for analysing individual variances. Not only are correlations of higher significance, they also posses stronger explanatory power. In regard to variances of the overall sample the data suggests that methodological effects are limited to addressed information targets and content. The separate examination of single-user and group methods reveals that these variances can be attributed to group methods only. Hence, prove results of Kruskal-Wallis Tests variances among the amount of collected experiences to be related to single user methods.

To sum up, the analysis above proves that variances on individual level cannot be explained through effects of national culture. Methodologically, however, effects on the content, source and target of information collected through different user analysis methods can be confirmed. As mentioned at the outset of this chapter, differences in obtained results on this level of analysis are more likely to occur due to variance in the individuals' disposition. The following analysis, therefore, will centre on individual traits and their relation to results obtained through different user-analysis methods.

6.6.2.2.2 Personal Disposition and Method

Conducted bivariate correlation analysis of obtained method results with the users' personality-traits, motivational premises and value structures for each method on individual level reveal which traits of

the participants' personal disposition facilitate and which hinder the elicitation of particular insights. At this stage shall be pointed out once more that the focus of this research is on the impact of culture on method application. Thus, the list of factors of personal dispositions is not complete, as only those factors that are proved to be influenced by culture come under scrutiny here (ref. 6.2.3 and Figure 6.5). Further personal factors, such as intelligence or deductive reasoning skills, that are likely to affect the application of a method on individual level, but which are not influenced by culture [Niu06], were not measured and will not be considered.

6.6.2.2.2.1 Interview

Table 6.17 provides an overview of user traits that significantly correlate with obtained results through interviews. Correlations show that the general amount of ideas generated per user cannot be related to measures of individual disposition considered here.

However, in regard to the **source of information** from which participants drew to make their statements the data suggests that individuals which scored high on the enjoyment scale stated less opinions. Hence, the amount of user insights which stem from reported actions or behaviours is positively correlated to agreeableness, benevolence and socialization but negatively to achievement. A first careful interpretation of this tendency could be that participants who are concerned about the mission of the interviewer and who wish to help her completing it put more effort in fleshing out claims made through the description of own actions. Beyond, this finding could suggest that in a situation where interviewer and interviewee meet without prior acquaintance interviewees with higher socialization scores open up and try to socialize more through the description of rather personal and concrete actions as opposed to abstract opinions or experiences. People with high achievement values on the contrary would be rather careful in revealing too much personal information in a new situation, in which no significant gain can be expected.

Regarding **information target**, positive correlations can be confirmed between the amount of insights about the user with agreeableness and socialization scores as well as between design insights and the participants' conscientiousness scores. The line of argument for carefully explaining the connection between insights about the user with agreeableness and socialization scores is that those participants are more focused on human and social parts of their environment and thus address the user more often. The relation between conscientiousness and design insights is likely to be the result of highly conscientiousness participants trying harder in answering any question given to them in an interview. Even those abstract rather difficult to answer ones related to design. On top of that, individuals scoring high on the achievement scale addressed issues regarding the context less often than their lower scoring counterparts. One reason for this can be the participants' strive for personal success and performance in a situation where the main objective is to gather insights about a new product to be developed. In consequence those participants are likely to focus rather on the product than on the context. If this assumption holds true, however, one should expect a positive correlation between achievement scores and insights about the product which cannot be confirmed. Despite this missing correlation, the given explanation cannot simply be ruled out, as the structured interview itself, which was balanced between contextual and product related questions, could be the reason why

highly achievement oriented individuals did not address the product itself significantly more often than low achievement oriented ones.

Correlations between the individuals' disposition and the **content** level could also be established, but are hard to grasp. So, mentioned rather outward motivated participants design preferences significantly less often than participants that rely less on outward motivation. One line of argument could be that unless one is equipped with a specific sense for design, the verbalization of abstract design requirements requires significantly more cognitive load than, e.g., stating some functional features. Motivational aspects play a significant role for completing such a difficult task. The data suggests that for outward motivated people interviews seem not motivational enough to put much effort into verbalizing difficult and abstract concepts such as design requirements of a product to be developed. Further on, connections can be reported between to the amount and scope of functional requirements with conformity and security values. Both values are strongly conservational ones, i.e. values that are applicable for maintaining the status quo. Thus, this correlation can be explained through the participants' willingness to be innovative and break new grounds. In consequence, more claims concerning functional requirements were made by individuals scoring low in regard to conformity and security. The addressing of communicational requirements was facilitated by high socialization and tradition scores as well as by low creativity and extraversion levels. One reason for rather extraverted individuals to make fewer references towards communicational requirements could be their gregarious and assertive temper. Recalling the product to be developed being a web-portal for trading digital media, one could assume that extraverted people perceive less value of such an anonymous service than introverted ones in general and of communicational features of this service in particular. Thus it is likely that this correlation is an effect of the product to be developed and not of the method applied. The result that traditional values serve the elicitation of communicational requirements also seems to be rather product-related. Trade traditionally needs support through more or less personal communication; particularly to build trust among trade partners. Hence, that people appreciating rather traditional values require more communicational features for trading products online seems convincing. A relation to the applied method, however, seems hard to establish. At first sight, the strong negative correlation between high creativity scores and references towards communicational requirements surprises. Highly creative people are open, challenge-seeking and innovative. Thus one would expect particularly those people to significantly contribute with new ideas and insights. The data suggests, however, that interviews are not able to exploit this individual disposition in order to produce new and fresh insights. This assumption is also supported by the fact that no facet of information gathered through interviews is positively related to creativity scores. The opposite seems to be true, however, for socialization. This measure conflates personal dispositions that contribute to ones capability to fit into a social situation. Direction towards others and helpfulness are important features of that, which are likely to be the reason behind this positive correlation, too. Confirmed positive correlations between benevolence values and informational requirements seem to have the same origin. In contrast to that, the revealed negative correlation between self-direction values and informational requirements indicates interview's low efficacy in utilizing rather self-directed individuals; a line of argument equivalent to the one for creativity scores.

Finally, for two quality measures bivariate correlations could be established. So correlates uniqueness of gathered information positively with the participants' appreciation of enjoyment as motivational factor. Hence, the relevance of collected insights for product development is negatively correlated with stimulation values. An explanation of how a person's preference for enjoyment as motivational factor contributes to the elicitation of rather unique insights with interviews seems obvious. Interviews were conducted without providing significant compensation. Hence, outward motivation for freely participating in interview sessions with interviewer and interviewee of the same peer seems comparatively low. In consequence, conducted interviews relied largely on the participants' intrinsic motivation. Recalling the strong preference of all samples for enjoyment as motivational factor and the fact that simple, semi-structured interviews are likely to not to pose a challenge for most students it seems convincing that the major motivational factor of participants lies in the perceived enjoyment of participation. It can be further argued that individuals who are stronger motivated through enjoyment put more effort into thinking outside the box and thus came up with more unique ideas than their less motivated counterparts. The line of argument for explaining the negative correlation between relevance of collected ideas and stimulation follows the argumentation for self-direction and creativity. The data suggests that interviews were not stimulating enough for those individuals who highly appreciate stimulation values for guiding their behaviour, in order to engage conscientious and deep enough. This results in insights that might be valid but are of less relevance for product development. Indeed does the fact that both values – stimulation and self-direction – belong to the same value dimension, i.e. openness to change [Sch95], reinforce the idea of interviews not being able to capitalize individual dispositions that can be described as innovative, open and creative.

Table 6.17: Interview & Individual Disposition

N = 30		Personality					Motivation						Values										Superordinate Concepts				
		neuroticism	extraversion	openness	agreeableness	conscientious	intrinsic	extrinsic	enjoyment	challenge	outward	compensation	conformity	tradition	benevolence	universalism	self-direction	stimulation	hedonism	achievement	power	security	creativity	emotion	communication	socialization	engagement
# of Ideas		-0,01	-0,13	0,00	0,15	0,12	-0,09	0,05	-0,19	0,09	-0,09	0,17	-0,15	0,10	0,23	0,05	-0,08	0,00	0,11	-0,15	-0,11	-0,21	-0,11	0,05	0,04	0,18	0,00
I-S	experience	-0,06	-0,09	-0,13	0,00	0,23	-0,24	0,18	-0,12	-0,15	0,10	0,09	-0,17	-0,07	-0,15	-0,17	0,12	0,00	0,02	0,16	0,00	0,03	-0,11	0,08	0,12	-0,11	0,18
	opinion	-0,01	-0,05	0,11	0,00	0,08	-0,11	0,09	-,260	0,11	-0,07	0,12	-0,21	0,01	0,09	0,05	0,04	0,01	0,15	0,06	-0,12	-0,23	0,07	0,11	0,13	0,02	0,02
	action	-0,11	-0,25	-0,12	,283	0,11	0,06	-0,07	-0,03	0,05	-0,05	0,05	0,10	0,08	,281	-0,03	-0,17	0,11	-0,15	-,302	0,03	-0,07	-0,20	-0,07	-0,06	0,31	0,05
I-T 1	context	-0,03	-0,08	0,03	0,18	-0,01	-0,06	0,04	-0,19	0,09	-0,04	0,06	-0,06	0,12	0,21	0,10	-0,09	-0,03	-0,02	-,271	-0,16	-0,15	-0,13	-0,02	-0,02	0,25	0,00
	product	-0,11	-0,14	-0,03	0,06	0,24	-0,12	0,08	-0,16	0,07	-0,10	0,25	-0,18	0,00	0,06	-0,13	0,00	0,08	0,15	0,08	0,00	-0,16	-0,04	0,09	0,14	0,02	0,07
I-T 2	user	-0,25	-0,04	-0,09	,308	0,18	0,07	-0,06	0,08	0,00	0,10	-0,17	-0,11	0,10	0,08	0,15	-0,09	0,02	-0,09	-0,25	0,09	-0,08	-0,14	0,01	0,12	0,27	0,21
	domain	0,16	-0,08	0,19	-0,07	-0,16	-0,09	0,10	-0,24	0,08	-0,08	0,15	-0,05	0,04	0,13	0,03	0,06	-0,10	-0,04	-0,02	-0,12	-0,21	-0,02	-0,06	-0,10	0,02	-0,08
	competitor	0,09	-0,11	-0,20	0,15	0,11	-0,10	0,05	-0,24	0,05	0,02	0,00	-0,09	-0,24	0,12	0,04	0,11	0,01	0,22	0,00	-0,21	0,08	0,07	0,00	0,11	0,06	-0,06
	infrastructure	-0,02	0,03	-0,06	0,00	0,00	-0,17	0,18	-0,19	-0,05	0,03	0,07	-0,09	0,05	-0,18	-0,18	0,05	0,27	-0,18	0,03	0,11	0,05	-0,03	0,09	0,02	-0,13	0,01
	usp	0,05	-0,08	-0,08	0,05	-0,08	-0,20	0,17	-0,03	-0,10	0,02	0,22	-0,22	-0,04	-0,05	-0,08	-0,11	0,11	0,11	0,11	0,23	-0,04	0,01	0,08	0,06	-0,13	-0,13
	function	-0,01	-0,15	-0,05	0,06	0,19	-0,16	0,16	-0,15	-0,03	-0,02	0,24	-0,10	0,06	0,13	-0,09	-0,04	0,02	0,14	0,02	-0,06	-0,16	-0,16	0,01	0,00	0,06	0,01
	design	-0,20	0,03	-0,03	-0,02	,288	0,01	-0,04	-0,09	0,08	-0,04	0,04	0,08	-0,05	-0,07	-0,10	0,01	-0,03	-0,14	0,24	0,05	0,03	-0,05	-0,07	0,03	-0,05	0,24
Content	Lifestyle	-0,16	-0,08	-0,07	0,14	0,15	-0,02	0,02	-0,13	0,06	-0,09	0,04	-0,04	0,05	0,08	-0,01	0,10	0,01	-0,03	-0,15	-0,02	-0,10	-0,10	-0,03	0,08	0,17	0,16
	Product/ Service	0,08	-0,13	0,01	0,17	-0,08	-0,08	0,00	-0,25	0,12	0,00	0,00	-0,09	-0,08	0,24	0,06	-0,06	0,02	0,14	-0,10	-0,15	-0,16	0,03	0,02	0,03	0,17	-0,14
	Design Pref.	0,02	-0,26	0,22	0,03	0,00	0,02	-0,06	-0,23	0,24	-,316	0,22	-0,22	-0,09	0,01	0,03	0,06	0,17	0,10	0,08	0,07	-0,16	0,15	0,19	0,12	-0,07	-0,06
	Functional Req.	0,03	-0,23	0,15	0,14	0,04	-0,07	0,05	-0,24	0,14	-0,10	0,17	-,265	0,05	0,25	0,12	-0,10	0,07	0,10	-0,07	-0,08	-,278	0,00	0,14	0,07	0,11	-0,07
	Communic. Req.	0,03	-,270	-0,07	0,16	0,13	-0,10	0,09	0,01	-0,10	0,04	0,14	0,12	,274	0,23	-0,10	-0,25	-0,04	-0,02	-0,21	-0,18	-0,26	**-0,39**	-0,10	-0,25	0,27	0,01
	Informational Req.	-0,02	-0,08	-0,06	0,16	0,18	-0,24	0,19	-0,20	-0,08	0,12	0,17	-0,05	0,15	,333	-0,02	-,300	-0,07	-0,06	-0,11	-0,09	-0,14	-0,24	-0,13	-0,12	0,24	0,02
Quality	uniqueness	-0,01	-0,19	0,03	0,16	0,02	0,07	-0,07	,281	-0,13	-0,04	-0,06	-0,05	0,07	0,00	-0,01	0,05	0,10	0,09	-0,17	-0,02	-0,10	-0,06	0,12	0,00	0,04	-0,06
	relevance	0,24	-0,07	-0,07	-0,08	0,01	-0,20	0,16	0,04	-0,24	0,13	0,24	0,02	0,00	0,16	-0,06	-0,23	-,262	0,22	0,09	-0,12	0,01	-0,18	-0,07	-0,18	0,09	-0,17
	clearness	0,03	0,03	-0,03	-0,03	-0,07	0,15	-0,14	0,08	0,11	-0,02	-0,08	0,12	0,03	-0,06	0,02	-0,22	-0,04	-0,06	0,03	0,02	0,05	0,04	0,01	-0,10	0,05	0,01

= level of significance = 0,05 = level of significance = 0,01

+/- = positive/negative correlation
I-S = Information Source; I-T 1 = Information Target (Level1); I-T 2 = Information Target (Level2)

6.6.2.2.2.2 Puzzle Interview

Analogous to interviews, established Kendall-Tau correlations (ref. Table 6.18) between the participants' personal disposition and gathered user-generated ideas on individual level provide first insights in how far user-traits are supportive or hindering for the application of puzzle interviews.

Starting with the superordinate measure for method efficacy – # of ideas generated by the user – the only positive correlation that could be established with is the extrinsic motivator compensation. This correlation, however, seems difficult to pin down to some specific traits of puzzle interviews or their execution. Participants received the same compensation for each method and puzzle interviews themselves do not comprise traits that could be perceived or understood as any kind of tangible compensation. For explanatory reasons it seems worthwhile to reconsider what it actually means if a

person scores comparatively high on the compensation scale. Particularly for this student sample, high scores imply that respective individuals are quite concerned about their factual performance which is usually measured in grades and can be counted. Transferring this to puzzle interviews for which the user's performance is rather tangible to measure for both, the user and the interviewer, the reasons for a positive correlation between compensation driven individuals and number of ideas generated could be the participants' concern for good, factual performance. Interestingly, however this concern does not seem to stem from some altruistic behaviour of the user trying to support the researcher in her research-mission, as in this case the negative correlations between agreeableness, universalism and especially socialization with the number of generated ideas most likely would not be established. Thus it seems that individuals were rather concerned about their own performance and less about the researcher's task and therefore generate more ideas in general.

Regarding the source of information, the amount of given opinions positively relates to a user's valuation of stimulation and negatively to agreeableness, universalism and socialization. This correlation pattern is strongly related to correlations established between personal disposition measures and number of ideas generated described above. Thus, a similar explanation for this seems reasonable. Puzzle interviews seem able to well capitalize a person's need for external motivation and stimulation. One explanation for this could be that the puzzle cards utilized with this user-analysis method serve as concrete and specific triggers that motivate participants. In contrary to that, rather social oriented people seem to be less receptive for this motivation. The reason for this could be the fact that interaction within this method mainly happens through and about the cards. Thus, direct interaction with the interviewer that otherwise could motivate agreeable and social oriented people is rather low.

Correlations on the first and second level of information target also confirm this effect. Hence, correlations established for gathered information about design and unique selling proposition with motivation measures corroborate the hypothesis of puzzle interviews providing some additional extrinsic motivation. For example did rather extrinsically motivated individuals provide significantly more insights on difficult topics such as design and unique selling proposition. Hence, could insights about design issues proved to be negatively related to the superordinate concept (hedonic) emotion and to be positively related to engagement. This indicates that puzzle interviews utilize strong user engagement, which, opposed to initial expectations, does not build on the users' playfulness and pleasure seeking, but on the perception of this user analysis method as a serious task. This idea is further supported by revealed correlations between collected insights regarding infrastructure with openness and conscientious.

Regarding the content of collected insights correlations for lifestyle, product/service referred to, design preferences and communicational requirements clearly support findings above. An explanation between the negative connection between the participants' conscientious scores and comments on informational requirements of the product to be developed can be traced back to methodological issues. Puzzle cards mainly comprise specific functions. Thus the focus of participants who are very intent about well completing this type of interview is strongly narrowed down towards functional issues.

Participants less fixed to the method might be more prone to thinking outside the box and therefore come up with more insights about issues beyond the functional perspective.

Regarding the quality of user generated ideas, correlations again prove information gathered through puzzle interviews to be facilitated by the participants' extrinsic motivation. Beyond, both information uniqueness and clearness are affected by the users' perception of security values. These values comprise concepts of safety, harmony and order of the society, family and self [Sch03]. Thus this correlation once more supports the idea that puzzle interviews provide some stability for the user through their clear structure, low level of abstraction and specific context, which motivates certain individuals. Furthermore, suggests the revealed connection between clearness of information and the user's extraversion that rather extraverted participants were more intent to make their points clear.

Table 6.18: Puzzle Interview & Personal Disposition

	N = 30	Personality					Motivation						Values										Superordinate Concepts				
		neuroticism	extraversion	openness	agreeableness	conscientious	intrinsic	extrinsic	enjoyment	challenge	outward	compensation	conformity	tradition	benevolence	universalism	self-direction	stimulation	hedonism	achievement	power	security	creativity	emotion	communication	socialization	engagement
	# of Ideas	0,11	0,16	0,10	**-0,31**	-0,11	-0,13	0,20	-0,09	-0,10	0,04	**0,29**	-0,09	-0,12	-0,01	**-0,29**	-0,02	0,20	-0,08	0,01	0,06	0,09	0,15	0,04	-0,05	**-0,36**	-0,18
I-S	experience																										
I-S	opinion	0,12	0,16	0,08	**-0,28**	-0,12	-0,05	0,11	-0,10	0,03	-0,02	0,21	-0,14	-0,14	0,09	**-0,30**	0,00	**0,29**	0,03	-0,03	0,00	0,04	0,23	0,11	-0,03	**-0,34**	-0,25
I-S	action	-0,07	-0,06	-0,12	0,07	0,30	-0,02	-0,02	-0,40	0,28	-0,05	0,16	0,09	-0,20	-0,14	0,16	-0,19	-0,28	0,02	0,27	0,07	0,22	-0,20	-0,28	0,01	0,06	0,24
I-T 1	context	0,11	-0,01	0,19	-0,19	-0,03	0,00	0,05	-0,14	0,08	-0,03	0,10	-0,10	-0,12	0,10	-0,04	-0,03	0,14	-0,12	-0,10	-0,02	0,04	0,10	-0,01	-0,08	-0,08	-0,13
I-T 1	product	0,03	0,14	-0,03	-0,15	0,01	-0,09	0,11	-0,16	0,06	-0,05	**0,29**	-0,11	-0,14	-0,10	**-0,30**	-0,09	0,22	0,24	0,17	0,11	0,04	0,14	0,13	0,04	**-0,38**	-0,24
I-T 2	user	-0,11	0,09	-0,13	-0,07	0,15	-0,15	0,15	**-0,29**	0,14	0,08	0,11	-0,20	-0,10	0,02	0,07	-0,03	-0,15	0,04	-0,06	-0,08	0,04	-0,04	-0,08	0,14	-0,02	0,15
I-T 2	domain	0,12	-0,02	0,17	-0,15	-0,08	0,01	0,04	-0,08	0,05	-0,01	0,08	-0,09	-0,06	0,11	-0,05	-0,01	0,20	-0,07	-0,13	-0,01	-0,01	0,15	0,04	-0,09	-0,10	-0,20
I-T 2	competitor																										
I-T 2	infrastructure	-0,15	0,28	**-0,33**	0,16	**0,31**	0,08	-0,12	-0,07	0,19	-0,16	0,19	0,03	-0,11	0,11	-0,18	-0,02	0,06	0,14	0,10	0,08	-0,16	0,01	0,04	0,12	0,04	0,12
I-T 2	usp	-0,14	0,14	0,18	0,01	0,04	**-0,30**	**0,28**	-0,09	-0,19	0,15	**0,31**	0,16	-0,08	**-0,32**	-0,02	-0,24	-0,05	0,19	0,18	0,09	0,11	-0,13	0,00	0,12	-0,09	-0,01
I-T 2	function	0,09	0,05	-0,08	-0,10	0,00	-0,05	0,06	-0,21	0,09	-0,04	0,18	-0,10	-0,13	0,01	**-0,31**	-0,08	0,22	0,17	0,12	0,07	0,05	0,13	0,10	-0,03	**-0,32**	-0,23
I-T 2	design	-0,02	0,04	-0,09	-0,04	0,22	0,03	-0,05	**-0,35**	**0,32**	**-0,02**	0,07	-0,05	-0,24	-0,05	0,10	-0,09	**-0,32**	-0,14	0,19	0,05	0,20	-0,10	**-0,32**	0,08	-0,04	**0,32**
Content	Lifestyle	-0,01	0,10	0,15	-0,15	0,04	-0,13	0,17	**-0,33**	0,14	0,06	0,23	-0,02	-0,07	0,10	0,00	-0,21	-0,03	-0,09	-0,13	-0,11	0,15	-0,03	-0,15	-0,04	0,03	0,09
Content	Product/ Service	-0,07	-0,06	-0,12	0,07	0,30	-0,02	-0,02	**-0,40**	0,28	-0,05	0,16	0,09	-0,20	-0,14	0,16	-0,19	-0,28	0,02	0,27	0,07	0,22	-0,20	-0,28	0,01	0,06	0,24
Content	Design Pref.	0,15	-0,09	0,07	0,04	-0,27	**-0,33**	**0,37**	-0,03	**-0,34**	0,38	0,02	0,13	0,08	-0,03	**-0,29**	**-0,41**	-0,23	-0,10	0,15	0,25	0,24	-0,27	-0,22	-0,22	-0,06	-0,05
Content	Functional Req.	-0,07	0,24	0,09	-0,11	0,01	0,03	-0,01	-0,05	0,17	-0,12	0,15	-0,15	-0,15	0,07	-0,18	0,08	0,25	0,04	-0,05	-0,07	-0,16	0,25	0,15	0,20	-0,16	-0,13
Content	Communic. Req.	0,11	0,17	0,02	**-0,31**	-0,08	-0,12	0,14	-0,05	-0,12	0,04	0,21	-0,12	-0,09	-0,20	-0,12	0,02	0,11	0,12	0,06	0,09	0,08	0,12	0,08	0,04	**-0,40**	-0,19
Content	Informational Req.	0,23	0,14	0,13	-0,26	**-0,35**	-0,06	0,13	0,04	-0,14	0,06	0,14	-0,12	0,04	0,02	-0,19	-0,10	0,18	-0,14	0,04	0,07	0,12	0,15	0,02	-0,16	**-0,33**	-0,19
Quality	uniqueness	0,10	0,04	0,13	-0,03	-0,18	**-0,27**	**0,30**	-0,14	-0,20	0,21	0,20	-0,02	0,09	-0,09	-0,11	-0,24	0,05	0,00	0,05	0,07	**0,28**	-0,04	0,01	-0,14	-0,19	-0,20
Quality	relevance	-0,21	0,05	-0,23	0,22	0,23	-0,12	0,09	-0,05	-0,07	0,07	0,04	0,07	0,08	-0,10	-0,06	-0,09	**-0,27**	0,11	0,09	0,03	0,12	-0,24	-0,08	0,10	0,11	0,19
Quality	clearness	-0,07	**0,27**	-0,05	0,04	0,08	-0,08	0,08	-0,17	0,07	0,04	0,18	0,14	-0,03	0,07	-0,21	-0,16	-0,11	-0,07	0,16	-0,07	**0,27**	-0,09	-0,18	0,04	0,04	0,18

= level of significance = 0,05 = level of significance = 0,01

+/- = positive/negative correlation

I-S = Information Source; I-T 1 = Information Target (Level1); I-T 2 = Information Target (Level2)

6.6.2.2.2.3 Cultural Probe

The general analysis already proved cultural probes to be quite problematic in their execution and to be weak in terms of insights yielded compared to other methods. Besides already discussed methodological adjustments to make this method more successful, such as higher incentives, an analysis of the participants' personal disposition pared with gathered ideas is expected to reveal additional facilitators of this method.

Kendall-Tau correlations of general number of created ideas and user traits show a positive connection with the users' scores for neuroticism and a negative one with agreeableness and compensation scores. People scoring high on neuroticism are generally described as rather shy, self-conscious, receptive to stress and emotionally less stable. This established correlation suggests that participants saw a chance in revealing something about them without being necessitated to be in direct contact with a stranger. This idea is supported by further positive correlations of neuroticism with obtained results, e.g. with reported opinions, insights about the context, the user and especially references towards lifestyle. Revealed negative correlations of the amount of generated ideas with agreeableness and compensation on one hand support the idea that some procedural adjustments, i.e. higher levels of incentive, are likely to provide more insights, but on the other hand suggest that participants who produced more results did not do so to help out or please the interviewer but for their own sake.

Other established correlations further corroborate the idea of cultural probes relying heavily on compensation for those who are less keen on revealing their lives, but provide a good stage for those who are willing to do so. So do positive correlations between extraversion and openness scores with utilized sources of information generated by the user suggest that extraverted individuals, usually characterized as gregarious and assertive, were more willing to share their own experiences and participants scoring high on openness, usually described as having an active imagination, aesthetic sensitivity, attentiveness to inner feelings, preference for variety, and intellectual curiosity [Cos92], revealed more actions in regard to the product to be developed. Opposed to that, those participants who scored high on benevolence, i.e. people caring for the preservation and enhancement of those with whom they are in frequent contact [Sch03], were rather reluctant to draw from their own opinions or those of their environment. This is further supported by the strong negative correlations of benevolence scores with insights gathered regarding design issues. On a more abstract level these correlations support the idea that the degree of openness and transparency of ones life required by cultural probes can be perceived by some people as threatening for their own environment. In consequence they will try to protect their personal environment and therefore reveal less information about it.

Regarding target and content of information it is striking that rather extraverted participants tend to refer less often to the context and the problem domain but at the same time produce more specific ideas regarding functional requirements and design preferences than lower scoring ones. It seems, thus, that rather extraverted users stuck more to the product and the task. Other correlations established for these two dimensions of analysis further support assumptions made above.

Correlations of obtained results with the quality dimension provide further insights. Positive correlations of uniqueness of ideas with enjoyment and universalism scores suggest that the participants' sense for broadmindedness and tolerance combined with enjoyment of applying this method lead to an increase in uniqueness of communicated ideas. The striving for personal success and power, however, has rather obstructive effects on that. A straightforward explanation for this effect is that broadminded and motivated people are more likely to ambitiously engage in a situation with little to no chances for any kind of self-enhancement. Established correlations for clearness and relevance with universalism and achievement or tradition, respectively, further back this argument.

Table 6.19: Cultural Probe & Personal Disposition

	N = 17	Personality					Motivation						Values										Superordinate Concepts				
		neuroticism	extraversion	openness	agreeableness	conscientious	intrinsic	extrinsic	enjoyment	challenge	outward	compensation	conformity	tradition	benevolence	universalism	self-direction	stimulation	hedonism	achievement	power	security	creativity	emotion	communication	socialization	engagement
	# of Ideas	0,41	-0,35	0,22	-0,37	-0,22	-0,01	0,02	-0,05	0,10	0,18	-0,45	-0,10	-0,11	-0,23	0,27	0,10	0,13	-0,03	-0,03	-0,08	0,13	0,09	-0,12	-0,19	-0,27	-0,27
I-S	experience	-0,13	0,49	-0,22	-0,10	0,09	-0,06	0,08	0,21	-0,21	-0,04	0,16	-0,16	-0,35	-0,12	0,16	0,12	0,01	-0,33	0,16	-0,05	0,32	0,18	-0,08	0,37	-0,01	0,30
I-S	opinion	0,42	-0,14	-0,23	-0,36	-0,21	-0,21	0,22	-0,12	-0,16	0,32	-0,09	0,03	-0,05	**-0,62**	0,01	0,05	-0,06	0,16	0,19	0,16	0,16	-0,14	-0,21	-0,25	-0,30	-0,21
I-S	action	0,17	-0,17	0,47	-0,30	-0,21	0,16	-0,14	0,03	0,22	-0,05	-0,34	-0,07	-0,11	0,05	0,30	0,11	0,16	-0,14	-0,21	-0,07	-0,07	0,20	0,02	-0,09	-0,09	-0,13
I-T 1	context	0,43	-0,37	0,23	-0,36	-0,23	0,01	0,01	-0,04	0,12	0,16	-0,46	-0,11	-0,10	-0,22	0,29	0,11	0,11	-0,04	-0,04	-0,10	0,11	0,10	-0,13	-0,21	-0,26	-0,26
I-T 1	product	0,26	0,09	-0,40	-0,12	-0,10	0,01	0,05	-0,01	0,01	0,09	-0,01	-0,16	-0,32	**-0,58**	-0,01	0,30	0,14	-0,03	0,41	0,16	0,10	0,20	-0,09	0,09	-0,32	-0,03
I-T 2	user	0,37	-0,15	0,02	-0,44	-0,11	-0,16	0,18	-0,10	-0,07	0,29	-0,23	-0,03	-0,08	-0,24	0,13	-0,13	0,11	0,03	0,06	0,04	0,17	-0,02	-0,15	-0,16	-0,26	-0,19
I-T 2	domain	0,21	-0,40	0,41	-0,19	-0,12	0,19	-0,18	0,06	0,11	-0,06	-0,42	-0,04	-0,18	-0,07	0,29	0,27	0,11	0,09	-0,30	-0,13	0,02	0,10	-0,11	-0,22	-0,21	-0,25
I-T 2	competitor	0,04	-0,04	0,26	-0,03	-0,05	-0,04	0,03	0,06	-0,13	0,04	0,01	-0,09	0,03	0,26	0,26	-0,16	-0,11	-0,30	0,03	-0,26	0,11	-0,04	-0,09	0,03	0,09	0,11
I-T 2	infrastructure	0,11	-0,15	-0,09	0,01	0,12	-0,09	0,11	-0,25	0,03	0,30	-0,21	0,03	-0,20	-0,20	-0,07	-0,03	0,07	-0,11	0,44	0,18	0,07	-0,01	-0,09	-0,01	-0,20	-0,01
I-T 2	usp																										
I-T 2	function																										
I-T 2	design	0,26	0,09	-0,40	-0,12	-0,10	0,01	0,05	-0,01	0,01	0,09	-0,01	-0,16	-0,32	**-0,58**	-0,01	0,30	0,14	-0,03	0,41	0,16	0,10	0,20	-0,09	0,09	-0,32	-0,03
Content	Lifestyle	0,40	-0,37	0,32	-0,38	-0,30	0,02	0,00	-0,05	0,09	0,15	-0,42	-0,17	0,02	-0,16	0,35	0,00	0,07	-0,03	-0,09	-0,14	0,07	0,05	-0,09	-0,22	-0,17	-0,28
Content	Product/ Service	0,06	-0,28	0,27	-0,11	0,14	0,06	-0,04	0,12	0,02	-0,02	-0,28	0,08	-0,35	0,19	0,22	0,17	0,08	-0,10	-0,19	-0,06	0,13	0,09	-0,18	-0,09	-0,12	-0,06
Content	Design Pref.	-0,04	0,46	-0,17	-0,15	0,00	-0,06	0,08	0,24	-0,22	-0,03	0,13	-0,17	-0,35	-0,23	0,21	0,17	0,01	-0,25	0,13	-0,07	0,33	0,19	-0,10	0,33	-0,04	0,20
Content	Functional Req.	-0,26	0,44	0,00	-0,06	0,07	0,14	-0,09	0,11	0,06	-0,14	0,06	-0,28	-0,32	0,02	0,20	0,26	0,15	-0,26	-0,06	-0,06	0,17	**0,39**	0,14	**0,42**	0,01	0,21
Content	Communic. Req.																										
Content	Informational Req.	0,01	-0,25	0,52	-0,18	-0,02	0,07	-0,05	-0,03	0,12	-0,08	-0,06	0,00	-0,15	0,15	0,21	0,15	0,13	0,23	-0,34	-0,17	0,06	0,07	0,05	-0,12	-0,03	-0,33
Quality	uniqueness	-0,01	-0,22	0,36	-0,09	-0,02	0,22	-0,21	**0,36**	0,02	-0,24	-0,16	-0,20	-0,27	0,16	**0,46**	0,35	-0,04	-0,18	**-0,40**	**-0,42**	0,13	0,19	-0,12	0,01	0,05	-0,01
Quality	relevance	0,08	-0,20	0,35	-0,08	0,05	0,14	-0,12	0,22	0,00	-0,12	-0,17	-0,07	**-0,45**	0,10	0,37	0,33	0,05	-0,19	-0,14	-0,21	0,12	0,22	-0,20	0,00	-0,12	-0,03
Quality	clearness	0,11	-0,31	0,29	-0,10	0,05	0,28	-0,26	0,16	0,12	-0,26	-0,16	-0,03	-0,23	0,09	0,24	**0,42**	0,10	0,05	**-0,54**	-0,21	0,02	0,17	-0,12	-0,19	-0,06	-0,19

= level of significance = 0,05 = level of significance = 0,01

+/- = positive/negative correlation

I-S = Information Source; I-T 1 = Information Target (Level1); I-T 2 = Information Target (Level2)

6.6.2.2.2.4 Focus Group

For users participating in focus groups fewer significant correlations between personal disposition and obtained results could be established what makes the analysis of facilitators and obstacles for applying this method less reliable and more cumbersome. Table 6.20 below provides an overview of correlations established.

Researchers conducting the focus group sessions were given an outline of focus areas that ought to be covered. These areas comprised the content areas; however, without particular focus of competitors, i.e. the focus was on lifestyle, design preferences, and functional, communicational as well as informational requirements. User insights addressing particular competitors thus indicate cases in which participants backed their thoughts by referring to other products or services. Established correlations show that this concretization of information given by the user occurred more often with participants that scored rather high on self-direction and stimulation values and rather low on the enjoyment scale. One explanation for this could be that individuals, who are rather explorative, independent and challenge- and excitement-seeking are more likely to leave the beaten track and therefore are more likely to give explanations beyond the established focus. The negative correlation with enjoyment as motivational factor can be understood as a hint that in the given situation motivation for well performance might be less intrinsic oriented and rather induced by the group. Correlations, however, neither support nor reject this hypothesis, but suggest that focus group sessions were not able to capitalize the motivational factor enjoyment.

Regarding design insights the data shows that particularly self-enhancement and openness values facilitated the elicitation of user comments on this rather abstract and delicate focus area. The self-transcendent value benevolence on the contrary seems rather obstructive. Hence, functions of the product to be developed were addressed significantly more often by individuals with a preference for tradition values. These correlations further support the hypothesis that focus groups are well suited for motivating self-oriented, open and independent individuals that are ambitious and capable through social and group effects, but provide less guidance and support for rather self-transcendent participants.

In terms of quality of gathered ideas only one correlation could be established. The superordinate concept engagement is positively related to the uniqueness of collected user insights. This correlation seems convincing and the explanation for this straightforward. Obviously capitalize focus groups the potential of individuals to deeply engage with a method, who then put more effort in providing thoughts and insights that go deeper into the matter.

Table 6.20: Focus Group & Personal Disposition

	N = 57	Personality					Motivation						Values										Superordinate Concepts				
		neuroticism	extraversion	openness	agreeableness	conscientious	intrinsic	extrinsic	enjoyment	challenge	outward	compensation	conformity	tradition	benevolence	universalism	self-direction	stimulation	hedonism	achievement	power	security	creativity	emotion	communication	socialization	engagement
	# of Ideas	0,02	0,02	-0,06	-0,05	0,03	-0,14	0,14	-0,10	-0,12	0,08	0,13	-0,09	0,05	-0,13	0,02	-0,01	0,07	0,01	0,10	0,11	0,00	-0,02	0,01	-0,04	-0,06	-0,09
I-S	experience	0,13	-0,03	-0,09	-0,11	-0,06	-0,11	0,11	-0,06	-0,12	0,13	0,09	-0,08	-0,01	-0,07	-0,01	0,06	0,14	-0,05	0,03	0,03	0,01	0,02	-0,02	-0,09	-0,09	-0,13
I-S	opinion	0,02	0,00	-0,06	-0,07	0,07	-0,12	0,12	-0,10	-0,09	0,04	0,11	-0,04	0,04	-0,13	0,02	0,02	0,03	-0,05	0,11	0,07	0,04	-0,04	-0,05	-0,05	-0,04	-0,03
I-S	action	-0,05	0,01	-0,03	0,11	-0,05	-0,02	0,02	0,01	-0,07	0,08	-0,06	-0,02	0,02	-0,01	-0,05	-0,14	0,03	0,13	0,02	0,12	-0,04	0,00	0,11	0,02	0,01	-0,11
I-T 1	context	0,01	-0,02	-0,06	-0,01	0,06	-0,10	0,09	-0,07	-0,10	0,09	0,05	-0,06	-0,06	-0,09	-0,04	0,03	0,09	0,10	0,12	0,05	-0,06	0,02	0,06	-0,02	-0,06	-0,09
I-T 1	product	0,07	0,00	0,00	-0,14	0,01	-0,08	0,06	-0,13	-0,01	-0,01	0,12	-0,05	0,15	-0,11	0,11	-0,02	0,04	-0,16	-0,02	0,05	0,10	-0,05	-0,10	-0,10	-0,04	-0,02
I-T 2	user	-0,12	0,01	-0,04	0,16	0,02	-0,07	0,06	-0,03	-0,10	0,13	0,02	0,03	0,02	-0,04	-0,04	-0,13	-0,06	0,13	0,01	0,03	-0,01	-0,05	0,09	0,03	0,12	-0,05
I-T 2	domain	0,09	-0,06	-0,06	-0,11	0,06	0,02	-0,02	0,05	0,01	0,00	-0,07	-0,06	-0,12	-0,02	0,03	0,11	0,08	0,05	0,17	0,02	-0,03	0,05	0,00	-0,04	-0,10	-0,07
I-T 2	competitor	0,00	0,06	0,06	-0,09	-0,04	-0,07	0,07	-0,05	-0,07	0,07	0,07	-0,06	0,03	-0,07	-0,04	**0,19**	**0,20**	-0,03	0,04	0,00	-0,14	0,12	0,09	0,04	-0,11	-0,05
I-T 2	infrastructure	-0,09	0,07	-0,04	0,11	0,01	0,07	-0,07	0,10	0,05	-0,04	0,03	-0,04	-0,02	-0,10	-0,03	0,08	0,14	-0,13	0,06	-0,09	-0,01	0,10	0,03	0,08	-0,01	0,13
I-T 2	usp	-0,12	0,09	0,04	0,07	-0,05	0,03	-0,04	-0,03	0,04	-0,02	0,07	-0,09	-0,09	-0,05	0,13	0,05	-0,01	-0,03	0,00	0,10	0,06	0,06	0,04	0,17	0,01	0,04
I-T 2	function	0,05	0,02	-0,01	-0,12	0,04	-0,01	0,00	-0,07	0,00	-0,02	0,02	0,01	**0,21**	-0,03	0,05	-0,13	0,02	-0,13	-0,16	0,04	0,10	-0,09	-0,08	-0,12	0,04	-0,03
I-T 2	design	0,09	-0,05	-0,02	-0,03	-0,01	-0,19	0,17	-0,14	-0,12	0,01	**0,27**	0,02	0,13	**-0,27**	-0,08	0,15	-0,03	-0,11	**0,19**	0,08	-0,05	-0,05	-0,12	-0,07	-0,18	0,06
Content	Lifestyle	-0,01	-0,07	-0,06	0,01	0,14	-0,07	0,06	-0,02	-0,09	0,08	-0,03	0,02	-0,02	-0,05	0,02	0,00	0,02	0,12	0,04	0,02	-0,05	-0,04	0,02	-0,06	0,02	-0,08
Content	Product/ Service	0,06	0,07	-0,01	-0,13	-0,09	-0,16	0,15	**-0,21**	-0,06	0,12	0,12	-0,07	-0,04	-0,13	-0,12	0,14	0,13	0,07	0,10	0,03	-0,10	0,09	0,08	0,01	-0,16	-0,12
Content	Design Pref.	0,03	-0,01	0,03	-0,02	-0,01	0,03	-0,04	0,00	0,04	-0,10	0,09	-0,01	-0,12	-0,13	0,11	**0,23**	0,10	-0,03	0,09	-0,03	-0,07	0,12	0,02	0,07	-0,12	-0,01
Content	Functional Req.	-0,02	0,06	0,02	-0,04	0,00	-0,10	0,08	**-0,19**	-0,01	0,07	0,15	0,05	0,08	-0,14	0,06	-0,10	-0,01	-0,05	0,01	0,12	0,11	-0,09	-0,07	-0,04	0,01	-0,02
Content	Communic. Req.	-0,14	0,10	-0,03	-0,05	0,17	-0,03	0,03	-0,08	-0,03	0,04	0,05	-0,06	0,01	0,06	0,10	-0,05	-0,06	-0,05	-0,11	0,05	0,09	-0,06	-0,08	0,08	0,13	0,11
Content	Informational Req.	-0,05	-0,01	-0,02	0,03	0,05	-0,02	0,03	-0,03	-0,04	0,04	0,03	0,02	0,11	-0,04	0,07	-0,08	-0,02	0,00	-0,04	0,04	0,09	-0,10	0,01	-0,05	0,09	-0,05
Quality	uniqueness	-0,02	-0,04	0,00	-0,10	0,16	0,03	-0,03	-0,06	0,06	0,03	-0,03	-0,01	0,04	0,09	0,04	0,04	-0,06	-0,15	-0,03	-0,02	0,09	-0,02	-0,16	0,02	0,08	**0,18**
Quality	relevance	-0,03	-0,06	0,04	-0,03	0,10	0,00	0,00	0,01	-0,01	0,04	-0,04	-0,08	0,10	0,08	0,12	0,08	-0,06	-0,12	-0,03	-0,02	0,01	-0,02	-0,09	0,05	0,02	0,12
Quality	clearness	-0,09	0,09	-0,01	-0,03	0,06	-0,09	0,10	0,00	-0,11	0,09	0,12	-0,01	0,08	-0,09	-0,03	-0,05	0,08	-0,01	0,11	0,02	-0,02	0,01	0,03	0,08	-0,05	0,06

= level of significance = 0,05 = level of significance = 0,01

+/- = positive/negative correlation

I-S = Information Source; I-T 1 = Information Target (Level1); I-T 2 = Information Target (Level2)

6.6.2.2.2.5 Anecdote Circle

Table 6.21 summarizes established correlations between obtained user-generated insights and personal disposition for anecdote circles. Connections on general level show that particularly those participants, which are highly motivated through enjoyment and rely less on tangible compensations, produced significantly more ideas than other participants. Thus anecdote circles seem suitable for rather intrinsic motivated individuals for which open and free conversation is a pleasure. Revealed correlations regarding the source of information and the first level of information target also support this assumption.

Even though target and content of gathered information through anecdote circles strongly depends on the user's experiences made and narratives told, as those are the primary objectives of investigation, established correlations still hold valuable insights. So, indicate the significantly positive correlations between openness scores and gathered insights about competitors and infrastructure that some

degree of openness to new experiences and novelty facilitate the successful application of anecdote circles. The throughout strong correlations with infrastructural information, however, is to be taken with a pinch of salt, as infrastructure hardly was referred to in general and thus established effect-sizes are likely to be overvalued. Nonetheless, these correlations further supported already discussed effects, even though the origin of intrinsic motivation seems to be more biased towards challenge here. Further established correlations on the second level of information target provide additional insights. The negative relation between hedonistic values and user comments addressing functions of the product to be developed, supports the idea that intrinsic motivation cannot only be traced back to the users' preference for enjoyment and pleasure-seeking. Indeed positive connections of insights regarding unique selling propositions and functions with the superordinate concept socialization and universalism values prove that self-transcendence and group-effects also influence the application of anecdote circles. Self-transcendence, however, thereby is limited to its universal perspective, i.e. an individuals understanding, appreciation, tolerance and acceptance of the welfare of all people [Sch03], not just for ones in-group as the negative correlation between addressed design issues with benevolence values show.

Correlations on the content level of analysis also support arguments above. Hence, they foster the idea that conservation values, such as conformity and tradition, rather hinder the elicitation of user insights through anecdote circles while appreciation of prestige, control or dominance over other people seems supportive. Revealed findings between collected information requirements and personality traits abate the effect of openness at first sight. However, instead of rejecting the notion of openness facilitating the application of anecdote circles, the data rather suggests that conscientiousness also positively affects the application for reasons discussed above. In regard to the quality dimensions no significant correlations could be established.

Table 6.21: Anecdote Circle & Personal Disposition

	N = 57	Personality					Motivation						Values										Superordinate Concepts				
		neuroticism	extraversion	openness	agreeableness	conscientious	intrinsic	extrinsic	enjoyment	challenge	outward	compensation	conformity	tradition	benevolence	universalism	self-direction	stimulation	hedonism	achievement	power	security	creativity	emotion	communication	socialization	engagement
	# of Ideas	-0,07	0,02	0,02	0,02	0,08	0,13	-0,12	0,23	0,07	-0,05	-0,23	-0,04	-0,17	-0,13	-0,06	0,05	0,03	0,09	0,08	0,01	0,08	0,07	0,09	0,12	-0,07	0,01
I-S	experience	-0,03	-0,10	0,04	-0,12	0,17	0,11	-0,09	0,10	0,11	-0,03	-0,14	-0,18	-0,16	-0,07	-0,01	0,07	0,06	-0,11	0,14	0,04	0,05	0,07	0,01	0,09	-0,10	0,12
I-S	opinion	-0,06	0,02	-0,10	0,09	0,06	0,10	-0,11	0,13	0,07	-0,02	-0,19	0,10	-0,07	-0,05	0,06	-0,09	-0,01	0,00	-0,02	-0,02	0,13	-0,05	-0,04	0,02	0,06	0,02
I-S	action	-0,05	0,14	0,06	0,11	-0,13	0,03	-0,02	0,05	0,02	-0,09	0,00	-0,05	-0,11	-0,10	-0,07	0,07	0,05	0,15	0,02	0,00	-0,04	0,16	0,17	0,11	-0,05	-0,12
I-T 1	context	-0,08	0,03	0,03	0,01	0,09	0,14	-0,13	0,21	0,10	-0,06	-0,23	0,00	-0,18	-0,08	-0,03	0,05	-0,01	0,09	0,03	-0,01	0,11	0,04	0,05	0,10	-0,02	0,04
I-T 1	product	-0,01	-0,03	0,06	0,04	-0,09	0,04	-0,06	0,09	0,01	-0,04	-0,08	-0,04	-0,07	-0,10	0,05	-0,12	0,14	-0,05	0,11	0,01	-0,04	0,12	0,11	0,04	-0,03	-0,12
I-T 2	user	-0,06	0,07	0,02	-0,01	0,03	-0,01	0,00	0,04	-0,01	-0,05	-0,04	0,05	0,10	-0,08	0,00	-0,01	0,03	-0,04	-0,01	-0,10	0,14	-0,02	-0,02	-0,01	0,05	0,06
I-T 2	domain	0,03	0,00	-0,17	0,03	0,12	0,01	-0,02	0,04	-0,01	0,07	-0,09	-0,02	-0,18	0,13	0,05	-0,07	-0,12	-0,12	0,07	0,03	0,11	-0,12	-0,14	0,00	0,05	0,11
I-T 2	competitor	-0,02	-0,05	0,25	-0,11	0,04	0,13	-0,11	0,18	0,13	-0,09	-0,12	-0,14	-0,04	0,04	-0,06	0,06	-0,01	0,17	-0,03	-0,01	-0,07	0,09	0,16	0,07	-0,03	0,02
I-T 2	infrastructure	-0,18	-0,01	0,30	0,18	-0,05	0,29	-0,29	0,11	0,36	-0,37	-0,13	-0,01	-0,18	0,18	0,01	-0,05	0,09	0,37	-0,14	-0,07	-0,05	0,23	0,30	0,20	0,17	-0,10
I-T 2	usp	-0,11	-0,02	0,02	0,10	0,08	0,01	-0,05	0,01	0,03	0,00	-0,04	0,13	-0,08	0,08	0,22	-0,12	-0,02	-0,16	-0,03	-0,14	0,05	-0,01	-0,03	0,04	0,20	0,10
I-T 2	function	-0,04	-0,05	0,14	-0,02	-0,06	0,12	-0,16	0,12	0,11	-0,15	-0,10	0,08	-0,11	0,13	0,20	-0,15	-0,12	-0,20	-0,03	-0,11	0,15	0,00	-0,05	-0,02	0,21	0,09
I-T 2	design	0,06	-0,02	0,10	-0,14	-0,03	-0,07	0,05	-0,02	-0,07	0,17	-0,14	0,04	-0,06	-0,20	0,16	-0,07	-0,03	-0,11	0,10	0,00	0,11	-0,02	-0,05	-0,02	-0,02	-0,02
Content	Lifestyle	-0,05	0,01	0,02	0,01	0,06	0,07	-0,08	0,17	0,01	-0,01	-0,14	0,03	-0,11	-0,11	0,03	-0,08	-0,04	0,10	-0,06	0,01	0,17	-0,02	0,05	0,03	0,01	-0,04
Content	Product/ Service	0,05	-0,01	0,02	-0,04	0,01	-0,03	0,05	-0,03	-0,04	0,11	-0,06	-0,24	-0,16	0,07	-0,07	0,19	0,05	-0,05	0,05	0,08	-0,14	0,09	0,04	0,14	-0,14	0,05
Content	Design Pref.	-0,02	0,07	0,08	-0,04	-0,02	-0,01	-0,01	0,06	-0,05	0,13	-0,21	0,05	-0,05	-0,20	0,21	0,03	-0,01	-0,04	0,02	-0,12	0,10	0,02	-0,01	0,03	0,06	0,00
Content	Functional Req.	-0,07	0,04	0,08	0,12	-0,09	0,18	-0,16	0,24	0,06	-0,09	-0,13	-0,08	-0,17	0,06	0,00	0,02	0,11	-0,03	0,10	0,02	-0,06	0,17	0,15	0,14	0,02	-0,03
Content	Communic. Req.	-0,06	0,02	0,00	-0,01	0,10	-0,02	0,01	0,04	-0,02	0,04	0,01	0,04	-0,23	-0,17	-0,02	-0,16	0,07	-0,09	0,12	0,21	0,12	-0,01	-0,04	0,02	-0,07	-0,01
Content	Informational Req.	-0,01	-0,06	-0,28	0,01	0,21	0,01	-0,02	0,01	-0,01	-0,01	-0,07	-0,07	0,03	-0,09	-0,01	0,04	-0,03	-0,24	0,07	-0,01	0,08	-0,06	-0,15	-0,04	-0,02	0,17
Quality	uniqueness	0,06	-0,05	0,02	-0,12	0,03	-0,06	0,07	0,02	-0,11	-0,04	0,14	-0,17	-0,12	-0,04	0,02	0,07	0,17	-0,04	0,05	0,09	-0,05	0,04	0,02	0,04	-0,14	-0,03
Quality	relevance	0,01	0,02	0,05	-0,11	0,02	0,03	-0,03	0,14	-0,05	-0,11	0,02	-0,14	-0,08	0,08	0,05	0,16	0,10	-0,17	0,11	-0,08	-0,05	0,07	0,00	0,06	-0,05	0,10
Quality	clearness	-0,01	-0,02	-0,02	0,10	-0,09	-0,05	0,05	-0,08	-0,02	0,07	0,02	-0,07	-0,03	0,06	0,09	0,00	0,04	-0,04	0,00	-0,01	-0,05	0,02	0,03	0,05	0,03	-0,05

= level of significance = 0,05 = level of significance = 0,01

+/- = positive/negative correlation

I-S = Information Source; I-T 1 = Information Target (Level1); I-T 2 = Information Target (Level2)

6.6.2.2.2.6 Inspiration Card Workshops

Correlations for user generated ideas with inspiration card workshops are given in Table 6.22. For the general amount of ideas collected no significant correlation could be established. In regard to source of information, however, results meet initial expectations. So support revealed correlations the notion that inspiration card workshops require a certain degree of openness and independence. The major reason for this is likely to be found this method's loose structure, interactivity and creativity. Those who are open and receptive to new experiences in consequence are likely to engage deeper and to share more experiences than reserved, but polite bystanders.

Correlations established for the second level of information targets by and large confirm this tendency. However, they also hold some surprises, such as the strongly negative correlation between openness scores and collected insights about competitors. Similar to anecdote circles, though, these correlations are to be taken with a pinch of salt as those are based on very rare occurring events and thus their

effect size is likely to be overvaluated. Hence, does the strong negative correlation between openness and competitor information not reject the idea of inspiration card workshops relying on open individuals to produce rich and valuable insights. References about the competitive environment of the product to be developed in most cases are rather concrete and straight forward. Thus it does not surprise that rather less open individuals make comments like that, especially not if they, as the correlation shows, are rather extraverted and therefore throughout gregarious and assertive. Correlations on this level of analysis provide further useful insights. So do outward motivational factors positively affect the users' output. Together with established positive correlations of tradition values and comments regarding unique selling propositions, as well as informational requirements and products/services referred to, this fosters the idea that factors providing outward motivation can be traced back to effects of the group and social conformity. Furthermore, positive correlations established with appreciating stimulation values as guiding principles of ones life as well as with the superordinate concepts creativity and (hedonic) emotion suggest that structure and design of inspiration card workshops are well suited to capitalized the participants creative, innovative and novelty seeking potential.

Interestingly, in regard to quality of obtained results only negative correlations could be established. The uniqueness of obtained insight, thus, was negatively affected by the participants' conscientiousness. In combination with the high creative demands of this method, this correlation seems convincing and little surprising, as highly conscientious people are likely to stick more to the given task and are less likely to think out of the box. Hence, the data suggests that the relevance of collected insights is negatively connected to conscientious scores and the subordinate concept engagement. The explanation for conscientious scores follows the line above, for engagement, however, an explanation seems less straight-forward. One can assume that participants with high engaging potential tried to perform well in this loosely structured and open method and thus simply generated more insights and this in turn at the expense of relevance of obtained results for the product to be developed. Finally, negative correlations between creativity, universalism and clearness of results are likely to have the similar origin. Highly communicative people thus appreciated this method for its openness and interactivity and thus exchanged a lot more thoughts and ideas than less communicative participants; this, however, at the expense of their comments' clearness.

Table 6.22: Inspiration Card Workshop & Personal Disposition

N = 57		Personality					Motivation						Values										Superordinate Concepts				
		neuroticism	extraversion	openness	agreeableness	conscientious	intrinsic	extrinsic	enjoyment	challenge	outward	compensation	conformity	tradition	benevolence	universalism	self-direction	stimulation	hedonism	achievement	power	security	creativity	emotion	communication	socialization	engagement
# of Ideas		-0,06	-0,08	0,14	-0,04	0,10	0,02	-0,04	0,01	0,07	-0,01	0,08	-0,18	0,13	-0,09	0,04	0,11	0,07	0,09	-0,04	0,09	-0,16	0,05	0,14	0,08	-0,06	0,01
I-S	experience	0,03	-0,15	0,24	-0,10	-0,02	-0,12	0,09	-0,04	-0,14	0,10	-0,01	0,10	0,02	-0,13	0,01	0,02	-0,13	0,08	0,10	-0,03	0,12	-0,10	-0,03	-0,06	-0,03	0,03
	opinion	-0,03	-0,09	0,09	-0,02	0,05	0,08	-0,08	0,14	0,02	0,01	-0,02	-0,21	0,10	-0,17	0,00	0,12	0,10	0,02	-0,16	0,11	-0,07	0,10	0,15	0,06	-0,12	0,01
	action	-0,03	0,11	-0,02	-0,02	0,07	-0,07	0,06	-0,14	0,06	-0,01	0,14	-0,05	0,12	-0,04	-0,01	0,04	0,07	0,05	0,09	0,03	-0,16	0,00	0,01	0,02	0,00	-0,03
I-T 1	context	-0,03	-0,11	0,17	-0,05	0,10	-0,01	0,00	-0,04	0,07	0,00	0,09	-0,14	0,14	-0,12	0,04	0,09	0,05	0,06	-0,02	0,08	-0,12	0,02	0,10	0,04	-0,05	0,03
	product	-0,03	0,08	-0,14	0,05	0,10	0,01	-0,01	0,13	-0,14	0,09	-0,04	-0,10	0,10	-0,16	-0,08	-0,01	0,04	0,01	0,04	0,18	-0,04	0,00	0,02	0,00	-0,08	0,02
I-T 2	user	-0,03	-0,02	0,10	-0,11	0,17	0,02	-0,03	0,01	0,04	-0,03	0,03	-0,19	0,11	-0,05	-0,02	0,04	0,04	0,11	-0,05	0,03	-0,11	0,03	0,10	0,04	-0,07	-0,02
	domain	-0,03	-0,10	0,09	0,09	-0,09	0,03	-0,04	0,01	0,08	-0,05	0,08	-0,12	0,08	-0,07	0,06	0,10	0,11	0,02	-0,06	0,10	-0,20	0,08	0,18	0,08	-0,07	-0,02
	competitor	-0,09	0,35	-0,36	0,11	-0,08	0,14	-0,10	0,13	0,17	-0,16	0,07	-0,28	0,00	0,11	-0,11	0,15	0,30	0,09	-0,04	0,08	-0,42	0,33	0,24	0,18	-0,17	-0,18
	infrastructure	-0,11	0,13	-0,01	0,01	-0,02	0,10	-0,07	0,00	0,16	-0,19	0,13	-0,16	-0,13	0,14	-0,04	0,14	0,16	0,11	-0,02	0,07	-0,14	0,23	0,13	0,19	-0,04	-0,04
	usp	0,15	-0,04	0,05	-0,11	-0,02	-0,17	0,15	0,01	-0,29	0,27	-0,11	0,12	0,27	-0,21	-0,07	-0,03	-0,12	-0,21	0,12	0,08	0,15	-0,18	-0,21	-0,21	-0,09	0,10
	function	-0,03	0,07	-0,18	0,07	0,12	0,00	0,00	0,11	-0,12	0,08	-0,03	-0,04	0,08	-0,20	-0,06	0,00	0,01	-0,05	0,02	0,18	0,01	-0,03	-0,05	-0,01	-0,06	0,05
	design																										
Content	Lifestyle	-0,07	-0,14	0,19	-0,11	0,17	0,08	-0,10	0,02	0,09	-0,11	0,08	-0,13	0,07	-0,05	0,03	0,10	0,02	0,06	0,07	0,00	-0,09	0,02	0,08	0,06	-0,05	0,09
	Product/ Service	0,02	0,00	0,06	-0,04	-0,02	-0,06	0,09	0,03	-0,08	0,14	-0,03	-0,08	0,21	-0,01	-0,13	0,08	0,02	-0,05	0,02	0,07	-0,08	0,02	0,01	-0,03	-0,14	-0,01
	Design Pref.																										
	Functional Req.	0,06	0,01	-0,05	0,04	-0,02	-0,13	0,12	-0,06	-0,12	0,19	0,06	-0,04	0,12	-0,15	-0,04	0,01	0,06	0,05	-0,06	0,17	-0,07	-0,02	0,02	-0,04	-0,05	-0,10
	Communic. Req.	-0,12	-0,04	0,10	0,07	0,04	0,12	-0,15	0,14	0,04	-0,05	-0,15	-0,03	-0,18	-0,10	0,10	0,08	0,02	0,08	-0,12	-0,07	-0,01	0,06	0,12	0,14	0,12	0,05
	Informational Req.	0,10	0,05	0,02	-0,01	-0,17	-0,07	0,07	0,04	-0,10	0,10	-0,01	-0,12	0,20	-0,12	-0,09	-0,04	0,11	0,07	0,02	0,22	-0,08	0,05	0,09	-0,06	-0,17	-0,15
Quality	uniqueness	-0,01	-0,08	0,09	0,07	-0,21	0,05	-0,07	0,07	0,03	-0,07	-0,04	-0,07	0,05	-0,03	0,14	-0,09	-0,06	0,07	-0,13	-0,15	0,00	-0,01	0,14	0,02	0,09	-0,07
	relevance	0,09	0,08	0,04	0,01	-0,26	-0,03	0,04	-0,06	-0,02	0,05	0,01	-0,02	0,02	-0,01	0,07	-0,09	0,06	0,10	-0,10	0,02	-0,02	0,02	0,12	-0,02	0,04	-0,23
	clearness	0,19	-0,11	-0,04	-0,01	-0,11	-0,07	0,07	0,01	-0,11	0,10	0,00	0,11	0,07	0,05	-0,22	-0,03	-0,07	0,03	0,16	-0,01	-0,12	-0,02	-0,06	-0,19	-0,08	-0,10

= level of significance = 0,05 = level of significance = 0,01

+/- = positive/negative correlation

I-S = Information Source; I-T 1 = Information Target (Level1); I-T 2 = Information Target (Level2)

6.6.2.2.3 Summary

Table 6.23 below summarizes facilitators and obstacles for the successful application of each single method on individual level. Established correlations reveal that interviews primarily benefited from the users' helpfulness and socializing behaviour, while the users' creative potential, openness and success-orientation was rather counter-productive for revealing insights about the product to be developed or its context of use. On the contrary, user traits that seemed suitable to support the application of interviews, i.e. helpfulness and socialization, plus the users' openness to new experiences and change, hampered the collection of user generated ideas through puzzle interviews. This method, thus, seems rather suitable to capitalize extrinsically motivated users with high engagement scores. Cultural probes, though, seem to work best with some kind of arty people that are creative and open but rather neurotic at the same time. Achievement orientation, preference for

tangible compensations as a mean for motivation and private-consciousness are established personal dispositions that make the application of cultural probes more cumbersome.

In regard to group methods, the participants' openness served as a positively influencing factor in all three cases. Beyond, for focus groups particularly the individuals' success-orientation and engagement potential facilitated the elicitation of user-generated insights. Enjoyment and self-transcendence, though, seem to be rather problematic. Besides openness, anecdote circles rely on the users' high socialization potential and intrinsic motivation. Conservative values, such as conformity and tradition, as well as extrinsic motivational preferences hinder this method's application. Being a rather artistic and playful method, inspiration card workshops particularly build on facilitating dispositions that convey openness and creativity. Confirmative personality traits as well as too high levels of communicativeness and engagement make the efficient application of this method more difficult.

Table 6.23: Facilitators & Obstacles on Individual Level

		Facilitator	Obstacle
single-user	Interview	○ helpfulness/altruism ○ socializing	○ creativity ○ openness ○ achievement
	Puzzle Interview	○ extrinsic motivation ○ engagement	○ socializing ○ helpfulness/altruism ○ openness
	Cultural Probe	○ openness ○ creativity ○ neuroticism	○ achievement ○ tangible compensation ○ private/conservative
group	Focus Group	○ achievement ○ openness ○ engagement	○ enjoyment ○ benevolence/self-transcendence
	Anecdote Circle	○ openness ○ socializing ○ intrinsic motivation	○ conservative values ○ extrinsic motivation
	Inspiration Card Workshop	○ openness ○ creativity	○ conformity ○ communication ○ engagement

6.6.2.3 Analysing Cultural Variance

In order to analyse the relative efficacy of each tested method per culture, collected data was adjusted for inter-methodological effects that influence obtained measures' means. This was achieved by centring results around the mean of each method across all nations. By this intra-methodological, inter-cultural perspective, variances of the distributions' mean across cultures and within one method can be analysed on national level (ref. 6.2.3 and Figure 6.5). The centring procedure, thereby, ensures the mean across all national samples to be the same within one method, i.e. $\overline{X}$ = 0.0. A positive deviation of a national sample's mean thus indicates the relative efficacy of this culture, compared to the other two cultures' efficacy. For negative deviations the same holds true vice versa. Differences in the samples' measures of dispersion, however, are not affected by this procedure. Thus, while an analysis of the samples measures of central tendency reveals variations between the samples that can be straight-forwardly attributed to some effects of national culture, the analysis of dispersion measures between samples is misleading, as these are influenced by individual effects that already were analysed above (ref. chapter 6.6.2.2). Therefore, t-tests will be utilized at this level of analysis. For cases in which t-test premises cannot be met Kruskal-Wallis tests will be applied.

6.6.2.3.1 Method, Culture and Cultural Efficacy

If there were no effects on the application of methods across cultures, tests of comparing variances in measures of central tendency would produce no significant results. Indeed, conducted analysis below proves the opposite (ref. Table 6.24). This, in turn, indicates that applied methods did not work equally efficient in each country. Thus, the different methods' cultural efficacy, i.e. amount and quality of user-generated insights a method produced in different cultural settings, will be further scrutinized here.

Table 6.24 shows results of a conducted Kruskal-Wallis test. Tested was the effect of the different national samples, i.e. national culture, on obtained user-generated insights for the product to be developed. Interestingly, for standard methods, such as interviews and focus-groups, no significant effect of culture regarding the general amount of ideas generated by users could be established. This suggests that the overall amount of information gathered through interviews and focus groups is more or less equal across cultures. For all other methods, however, results prove culture to influence the amount of obtained insights already significantly on general level. A comparison of average ranks the Kruskal-Wallis test assigned to each country reveals that puzzle interviews in general yielded the most insights in Korea, followed by China in the second and Germany in the third place. Cultural probes, which were carried out in China and Korea only, worked significantly better in the prior country. Anecdote circles, though, seem to best suit the German sample and to be least suitable for the Chinese case. With inspiration card workshops the lowest number of insights could be collected in Korea, more successful was the application in China and in Germany this method produced the most results.

In regard to the quality of obtained results only for cultural probes no significant cultural effect can be confirmed. It seems likely, however, that the reason for this can be attributed to the comparatively small samples sizes (N=17; 10 in China and 7 in Korea). For all other methods the conducted analysis revealed a significant impact of culture in at least two out of three quality measures. In terms of interviews, the German sample generated the most unique insights, followed by the Chinese and Korean one. For the quality criterion relevance the same rankings can be confirmed, while the insights clearness does not significantly differ for interviews. The cultural effect on puzzle interviews, however, looks quite different. So, were insights generated by the Korean sample the most unique ones and hence, communicated the clearest. Yet, those were the least relevant ones. Opposed to that, ideas collected with the German sample, were highly relevant for product development, but little unique and also unclear communicated. The Chinese sample scored rather mediocre on all three quality measures in regard to this method. Focus groups, in contrast, yielded highest quality results in all three dimensions with the Chinese sample. While Koreans score quite medial and Germans rather poor in terms of uniqueness, this tendency reverses for relevance and clearness of obtained insights. Results gathered through anecdote circles are about equally unique across all national cultures. Chinese, however, produced the most relevant results followed by Koreans in the second and Germans in the third place. This ranking reverses for clearness of collected user generated insights. Inspiration card workshops produce the most unique results in Germany and the least unique ones in Korea. In terms of clearness of gathered information, however, Germany and Korea almost form one

sample, for which gathered insights can be rated significantly clearer than for the Chinese sample; even though the German sample scores a bit higher than the Korean one.

Conducted Kruskal-Wallis tests already by and large confirm the hypothesis that a method's efficacy varies across cultures. To gain a clearer understanding of the origin of this cultural efficacy variance detailed analysis of collected user insights for each culture and method in regard to source and target of information as well as information content seems applicable.

Table 6.24: Cultural Efficacy – Overview

Kruskal-Wallis Test (ranks*)																							
method		int				puz				cp				fg				ac				ins			
country			cn	kr	de		cn	kr	de		cn	kr	de		cn	kr	de		cn	kr	de		cn	kr	de
# of Ideas		3	2	1		**2**	**1**	**3**		**1**	**2**			2	3	1		**3**	**2**	**1**		**2**	**3**	**1**
I-S	experience	2	1	3						**1**	**2**			**2**	**3**	**1**		3	2	1		3	2	1
I-S	opinion	**2**	**3**	**1**		2	1	3		**1**	**2**			1	3	2		3	1	2		**2**	**3**	**1**
I-S	action	**3**	**1**	**2**		3	1	3		1	2			3	1	2		3	2	1		1	3	2
I-T 1	context	**3**	**1**	**2**		**2**	**1**	**3**		**1**	**2**			1	3	2		**3**	**2**	**1**		**2**	**3**	**1**
I-T 1	product	**1**	**3**	**2**		**2**	**1**	**3**		1	2			**3**	**2**	**1**		3	1	2		**1**	**3**	**2**
I-T 2	user	**3**	**1**	**2**		1	1	2		**1**	**2**			1	2	3		**2**	**3**	**1**		**2**	**3**	**1**
I-T 2	domain	3	1	2		**2**	**1**	**3**		1	2			**1**	**2**	**3**		3	1	2		**2**	**3**	**1**
I-T 2	competitor	1	2	3						**1**	**2**			2	3	1		**1**	**2**	**3**		1	3	3
I-T 2	infrastructure	**1**	**3**	**2**		**1**	**2**	**3**		1	2			**1**	**3**	**2**		2	1	3		1	2	3
I-T 2	usp	**1**	**3**	**2**		**2**	**1**	**3**		1	1			3	1	2		3	1	2		3	3	1
I-T 2	function	**1**	**3**	**2**		**1**	**2**	**3**		1	1			2	3	1		2	3	1		**1**	**3**	**2**
I-T 2	design	**2**	**3**	**1**		3	1	3		1	2			2	3	1		1	2	3		1	1	1
Content	Lifestyle	2	1	3		**2**	**1**	**3**		**1**	**2**			**1**	**2**	**3**		3	1	2		2	3	1
Content	Product/ Service	**3**	**2**	**1**		3	1	3		1	2			**2**	**3**	**1**		**2**	**3**	**1**		**2**	**3**	**1**
Content	Design Pref.	3	2	1		**2**	**1**	**3**		1	2			**2**	**3**	**1**		3	1	2		1	1	1
Content	Functional Req.	1	3	2		**1**	**2**	**3**		1	2			**3**	**2**	**1**		2	1	3		**1**	**3**	**2**
Content	Communic. Req.	1	2	3		**2**	**1**	**3**		1	1			**1**	**2**	**3**		3	2	1		**2**	**3**	**1**
Content	Informational Req.	3	2	1		**2**	**1**	**3**		2	1			2	1	3		**3**	**1**	**2**		**2**	**3**	**1**
Quality	uniqueness	**2**	**3**	**1**		**2**	**1**	**3**		1	2			**1**	**2**	**3**		2	1	3		**2**	**3**	**1**
Quality	relevance	**2**	**3**	**1**		**2**	**3**	**1**		1	2			**1**	**3**	**2**		**1**	**2**	**3**		2	3	1
Quality	clearness	3	1	2		**2**	**1**	**3**		1	2			**1**	**3**	**2**		**3**	**2**	**1**		**3**	**2**	**1**

= level of significance > 0,05 = level of significance = 0,05 = level of significance = 0,01

6.6.2.3.2 Relative Cultural Efficacy per Method

The following chapters will centre on the detailed analysis of the origins of cultural efficacy variation of each tested method. Therefore, one sample t-tests of the established gross data centre across all samples ($\overline{X}$ = 0.0) against each cultural sample's one for each methodological measure was conducted. Established medial deviations as well as significant (on a 95% confidence interval) upper and lower deviations allow making specific judgements of a methods cultural efficacy in a particular culture. In cases where the assumptions of the t-test are not met, i.e. where data is not reasonably enough normally distributed, results of Kruskal-Wallis tests will be utilized in order to reveal valid insights. To test for normal distribution Kolmogorov-Smirnov tests were applied. Distributions were judged as reasonably enough normally distributed if h_0, i.e. data is normally distributed, was confirmed with a level of significance of more than 95%.

6.6.2.3.2.1 Interview

Findings regarding the cultural efficacy of interviews are summarized in Table 6.25. The general analysis above already shows that on general level no significant effects of national culture on the efficacy of interviews can be confirmed. For specific measures, however, results of conducted Kruskal-Wallis tests prove the efficacy of this method not to be independent of national culture. These findings are further backed through one sample t-tests for each culture.

For the Chinese sample four significant deviations from the theoretical mean can be confirmed; one in regard to information source, another two in respect to information target and a last one in the area of content of information. Interestingly, all four deviations are negative on both the upper and the lower level of applied confidence interval as well as on medial deviation. This indicates that interviews applied in China yielded significantly less reported actions, information directed towards the context of the product to be developed as well as towards the user and fewer references to specific competing products or services than the average.

For the Korean sample nine significant deviations can be reported. Opposed to the Chinese sample deviations, the Korean ones exist in both directions – negative and positive. Positive deviations, i.e. cases for which the Korean participants delivered significantly more insights than the average, were established for reported user actions and comments addressing the context of use as well as the user. Yet, the Korean sample was significantly less efficient in gathering opinions, addressing issues about the product in general and its features, such as unique selling propositions, functions and designs. In consequence, gained insights in Korea were significantly less relevant for product development than average.

For the German sample four significant deviations of collected user insights can be confirmed, of which half of them are above and the other half below the expected average. So yielded German participants significantly less insights regarding user-actions and communicational requirements of the product to be developed. On the other hand, no other sample generated more ideas regarding the design of the product. Hence, comments of the German sample were significantly more unique than those of their Korean and Chinese counterparts.

Table 6.25: Cultural Efficacy Interview (T-Test)

N = 30		Σ	China						Korea						Germany					
		K-S Test	N	K-S Test	T-Test	medial deviation	95% confidence interval		N	K-S Test	T-Test	medial deviation	95% confidence interval		N	K-S Test	T-Test	medial deviation	95% confidence interval	
							lower	upper					lower	upper					lower	upper
# of Ideas		+	10	+		-1,633	-6,841	3,574	10	+		0,467	-3,622	4,555	10	+		1,167	-4,557	6,890
I-S	experience	+	10	+		-0,333	-0,991	0,324	10	+		0,567	-0,470	1,603	10	+		-0,233	-1,542	1,075
	opinion	+	10	+		1,400	-2,301	5,101	10	+		-4,600	-6,461	-2,739	10	+		3,200	-1,645	8,045
	action	+	10	+		-2,700	-4,491	-0,909	10	+		4,500	1,376	7,624	10	+		**-1,800**	**-3,201**	**-0,399**
I-T 1	context	+	10	+		-3,867	-6,489	-1,245	10	+		**4,133**	**0,541**	**7,725**	10	+		-0,267	-4,174	3,641
	product	+	10	+		2,233	-0,894	5,361	10	+		-3,667	-5,034	-2,299	10	+		1,433	-0,922	3,789
I-T 2	user	+	10	+		-3,767	-5,064	-2,469	10	+		**4,133**	**1,023**	**7,243**	10	+		-0,367	-2,573	1,839
	domain	+	10	+		-0,733	-2,532	1,065	10	+		0,367	-1,251	1,984	10	+		0,367	-1,845	2,578
	competitor	-	10	+		0,100	-0,352	0,552	10	+		0,200	-0,629	1,029	10	+		-0,300	-1,039	0,439
	infrastructure	-	10	+		0,567	-0,221	1,354	10	-		-0,333	-0,786	0,119	10	-		-0,233	-0,579	0,112
	usp	+	10	+		0,767	-0,584	2,118	10	+		**-0,633**	**-1,260**	**-0,007**	10	+		-0,133	-0,902	0,636
	function	+	10	+		1,667	-0,813	4,146	10	+		-2,633	-3,473	-1,794	10	+		0,967	-0,685	2,619
	design	+	10	+		-0,233	-0,761	0,295	10	+		**-0,633**	**-1,139**	**-0,127**	10	+		**0,867**	**0,192**	**1,541**
Content	Lifestyle	+	10	+		-0,033	-2,756	2,690	10	+		1,267	-1,189	3,723	10	+		-1,233	-3,841	1,374
	Product/ Service	+	10	+		**-0,567**	**-1,019**	**-0,114**	10	+		-0,167	-1,132	0,799	10	+		0,733	-0,235	1,702
	Design Pref.	+	10	+		-0,533	-1,475	0,409	10	+		-0,233	-1,374	0,908	10	+		0,767	-0,515	2,049
	Functional Req.	+	10	+		2,100	-0,313	4,513	10	+		-1,200	-3,734	1,334	10	+		-0,900	-3,785	1,985
	Communic. Req.	+	10	+		1,033	-0,556	2,622	10	+		-0,067	-1,340	1,206	10	+		**-0,967**	**-1,806**	**-0,127**
	Informational Req.	+	10	+		-1,167	-2,714	0,380	10	+		0,233	-1,676	2,142	10	+		0,933	-1,383	3,250
Quality	uniqueness	+	10	+		-0,023	-0,086	0,040	10	+		-0,068	-0,155	0,019	10	+		**0,091**	**0,018**	**0,165**
	relevance	+	10	+		0,088	-0,008	0,183	10	+		-0,201	-0,292	-0,109	10	+		0,113	-0,003	0,229
	clearness	+	10	+		-0,024	-0,120	0,072	10	+		0,014	-0,049	0,077	10	+		0,010	-0,029	0,049

= level of significance > 0,05 = level of significance = 0,05 = level of significance = 0,01

+/- = normal distribution confirmed/rejected with p < 0,05

6.6.2.3.2.2 Puzzle Interview

The analysis of results obtained through puzzle interviews with t-tests cannot be run as straight-forward as the analysis of interview results, as for many measurement dimensions normal distribution cannot be confirmed (ref. Table 6.26). The reason for this lies in this method's setup-up, which strongly biases user-generated insights towards the product and its functions and this in a rather fixed scope due to of puzzle cards utilized. Therefore, significant findings of cases for which a reasonably enough normal distribution of collected insights cannot be confirmed, will be further investigated utilizing results of non-parametric Kruskal-Wallis tests (ref. Table 6.24).

On general level, conducted t-tests by and large confirm initial findings above. Yet, on top of this the analysis on hand proves that for both, the Chinese, as well as the Korean sample, the amount of produced ideas through puzzle interviews lies significantly above average. The German sample, in contrast, lies significantly below that. In regard to uniqueness of obtained results, it strikes that only the Korean sample scores above average. Both, Chinese and German users thus produced rather common insights. Regarding information relevance and clearness t-test are to be taken with a pinch of

salt, as for those dimensions normal distribution cannot thoroughly be confirmed. Nonetheless, initial findings made above hold.

Further significant deviations between the samples can be established for opinions stated, the ratio of comments addressing the product itself or the context as well as sub-dimensions of these, i.e. for domain-specific and infrastructure related insights or regarding unique selling propositions and functions, respectively. Hence, the content of user-generated insights varies significantly according to country for all criterions except for products/services referred to.

For almost all these measurements the same ranking of cultural method efficacy can be observed. So, scores the Korean sample the highest, the Chinese medial and the German sample the lowest for all these dimensions except for functions in terms of target of information and consequently functional requirements in terms of information content. For these two measure Chinese rank higher than their Korean counterparts; the German sample, however, remains the lowest scoring one.

The analysis of further measurement dimensions, i.e. information source and target, as well as content, by and large establish the common tendency of puzzle interviews having the highest efficacy in Korea and the lowest one in Germany. For China this method's cultural efficacy can be described as rather mediocre. So is the 95% confidence interval located above zero for all but one identified significant deviations from the theoretical average of the Korean sample, but for the German one below. The only case in which both samples switch roles is in terms of relevance of obtained information.

Table 6.26: Cultural Efficacy Puzzle Interview (T-Test)

N = 30		Σ	China						Korea						Germany					
		K-S Test	N	K-S Test	T-Test	medial deviation	95% confidence interval		N	K-S Test	T-Test	medial deviation	95% confidence interval		N	K-S Test	T-Test	medial deviation	95% confidence interval	
							lower	upper					lower	upper					lower	upper
# of Ideas		+	10	+		2,000	0,538	3,462	10	+		11,300	6,239	16,361	10	+		-13,300	-14,490	-12,110
I-S	experience																			
	opinion	+	10	+		2,633	1,171	4,095	10	+		11,833	6,784	16,883	10	+		-14,467	-19,145	-9,789
	action	-	10	-		-0,033	-0,033	-0,033	10	-		0,067	-0,160	0,293	10	-		-0,033	-0,033	-0,033
I-T 1	context	+	10	+		-2,167	-3,233	-1,100	10	+		6,233	2,552	9,915	10	-		-4,067	-4,293	-3,840
	product	-	10	+		4,767	4,109	5,424	10	+		5,667	3,067	8,267	10	+		-10,433	-15,106	-5,761
I-T 2	user	-	10	+		0,200	-0,569	0,969	10	+		0,200	-0,569	0,969	10	-		-0,400	-0,400	-0,400
	domain	-	10	+		-2,567	-3,241	-1,892	10	+		6,033	2,367	9,700	10	-		-3,467	-3,693	-3,240
	competitor																			
	infrastructure	-	10	+		0,233	-0,136	0,603	10	-		-0,067	-0,293	0,160						
	usp	-	10	+		-0,200	-0,537	0,137	10	+		1,400	-0,153	2,953	10	-		-1,200	-1,200	-1,200
	function	+	10	+		5,000	4,188	5,812	10	+		4,200	1,933	6,467	10	+		-9,200	-13,873	-4,527
	design	-	10	-		-0,067	-0,067	-0,067	10	-		0,133	-0,168	0,435	10	-		-0,067	-0,067	-0,067
Content	Lifestyle	+	10	+		-0,233	-1,073	0,606	10	+		1,767	0,409	3,124	10	-		-1,533	-1,760	-1,307
	Product/ Service	-	10	-		-0,033	-0,033	-0,033	10	-		0,067	-0,160	0,293	10	-		-0,033	-0,033	-0,033
	Design Pref.	-	10	+		-0,067	-0,724	0,591	10	+		0,933	-0,067	1,934	10	-		-0,867	-0,867	-0,867
	Functional Req.	+	10	+		6,300	5,542	7,058	10	+		2,700	1,308	4,092	10	+		-9,000	-13,673	-4,327
	Communic. Req.	+	10	+		-0,867	-1,787	0,054	10	+		2,833	1,088	4,579	10	-		-1,967	-1,967	-1,967
	Informational Req.	-	10	+		-3,333	-4,106	-2,561	10	+		8,167	4,427	11,907	10			-4,833	-4,833	-4,833
Quality	uniqueness	+	10	+		-0,025	-0,042	-0,007	10	+		0,065	0,033	0,098	10	-		-0,041	-0,041	-0,041
	relevance	+	10	+		0,000	-0,019	0,020	10	+		-0,057	-0,109	-0,005	10	-		0,056	0,050	0,063
	clearness	-	10	+		-0,029	-0,041	-0,017	10	+		0,076	0,038	0,113	10	-		-0,046	-0,061	-0,032

= level of significance > 0,05 = level of significance = 0,05 = level of significance = 0,01

+/- = normal distribution confirmed/rejected with p < 0,05

6.6.2.3.2.3 Cultural Probe

Due to the fact that cultural probes could only be carried out in two countries, insights about their cultural efficacy are quite limited and have to be taken with a pinch of salt.

Nonetheless, conducted t-tests as well as Kruskal-Wallis analysis yielded valid results. At first it strikes that conducted t-tests cannot confirm a significant deviation in the general amount of obtained results by the two samples opposed to Kruskal-Wallis tests. Due to the small sample, the higher robustness of non-parametric comparisons and established medial deviations, however, initial findings cannot be simply ruled out and must be understood as rather confirmed. Hence, even though initial tests could not confirm a significant effect of national culture on the obtained results' quality, t-tests prove cultural probes applied with Chinese participants to produce insights that are significantly more unique, more relevant for product development and clearer communicated than with their Korean counterparts. The effect size, though, is rather low. Stronger effects of national culture on method efficacy can be confirmed for user-generated insights addressing the context of product use, the user as well as the general lifestyle. For all these measures Chinese produced significantly more and Koreans significantly less insights than the expected average. Thus the generally confirmed tendency is that

the Korean sample performed below average for all significant deviations found. Opposed to that the Chinese one performed above average. Table 6.27 below provides an overview.

Table 6.27: Cultural Efficacy Cultural Probe (T-Test

N = 17		Σ	China						Korea					
		K-S Test	N	K-S Test	T-Test	medial deviation	95% confidence interval		N	K-S Test	T-Test	medial deviation	95% confidence interval	
							lower	upper					lower	upper
# of Ideas		+	10	+		3,159	-0,153	6,471	7	+		-4,513	-9,954	0,929
I-S	experience	+	10	+		0,453	-0,075	0,981						
	opinion	+	10	+		1,771	-0,543	4,084	7	+		**-2,529**	**-2,529**	**-2,529**
	action	+	10	+		0,935	-0,612	2,482	7	+		-1,336	-6,778	4,105
I-T 1	context	+	10	+		**3,077**	**0,052**	**6,101**	7	+		-4,395	-9,837	1,047
	product	-	10	-		0,082	-0,370	0,535	7	%		**-0,118**	**-0,118**	**-0,118**
I-T 2	user	+	10	+		**2,382**	**0,352**	**4,413**	7	+		**-3,403**	**-4,787**	**-2,020**
	domain	+	10	+		0,118	-1,098	1,333	7	+		-0,168	-4,464	4,127
	competitor	-	10	+		0,288	-0,195	0,771	7	%		**-0,412**	**-0,412**	**-0,412**
	infrastructure	-	10	+		0,288	-0,470	1,046	7	%		**-0,412**	**-0,412**	**-0,412**
	usp													
	function													
	design	-	10	-		0,082	-0,370	0,535	7	%		**-0,118**	**-0,118**	**-0,118**
Content	Lifestyle	+	10	+		**2,429**	**0,082**	**4,777**	7	+		**-3,471**	**-6,674**	**-0,267**
	Product/ Service	+	10	+		0,265	-0,815	1,344	7	+		-0,378	-3,419	2,663
	Design Pref.	-	10	+		0,206	-0,489	0,901	7	%		**-0,294**	**-0,294**	**-0,294**
	Functional Req.	-	10	+		0,271	-0,387	0,928	7	+		**-0,387**	**-0,736**	**-0,037**
	Communic. Req.													
	Informational Req.	-	10	-		-0,135	-0,362	0,091	7	+		0,193	-0,855	1,242
Quality	uniqueness	+	10	+		**0,207**	**0,068**	**0,346**	7	+		-0,296	-0,803	0,211
	relevance	+	10	+		**0,142**	**0,042**	**0,242**	7	+		-0,203	-0,654	0,248
	clearness	+	10	+		**0,215**	**0,136**	**0,294**	7	+		-0,307	-0,759	0,144

= level of significance > 0,05 = level of significance = 0,05 = level of significance = 0,01

+/- = normal distribution confirmed/rejected with p < 0,05

% = distribution without variance, Kolmogorov-Smirnov test could not be executed

6.6.2.3.2.4 Focus Group

In regard to focus groups, t-tests by and large confirm findings already established by conducted Kruskal-Wallis tests on general level. So does the Chinese sample score significantly above average in all three quality criterions. Hence, tests show that the affirmed significant deviations of the Korean and the German sample in terms of information uniqueness and relevance, is not due to one culture performing significantly better than the other one, but rather one culture to achieve significantly worse results than the expected average.

Due to a lack of normally distributed values, significant findings in regard to source, target and content of information cannot be validly explained by conducted t-test. Thus Kruskal-Wallis comparisons are to be utilized once more (ref. Table 6.28). These prove that the German sample reported own experiences significantly more often than the Chinese and the Korean one. Hence, did German participants address the product to be developed more often than other samples did. Regarding generated contextual information on the second level of analysis, the German sample made the fewest references towards domain and infrastructure related issues, but the most comments about

prospective competitors among all there samples. The Korean sample performed rather mediocre and the Chinese one rather poor in all three cases. This pattern can be observed across all dimensions of measurements. The German or the Chinese sample are either achieving extremely high or extremely low results. Yet, in all cases the results of both samples are diametrically opposed. The Korean sample's scores, tough, always are located somewhere in the middle.

Table 6.28: Cultural Efficacy Focus Group (T-Test)

N = 57		Σ	China						Korea						Germany					
		K-S Test	N	K-S Test	T-Test	medial deviation	95% confidence interval		N	K-S Test	T-Test	medial deviation	95% confidence interval		N	K-S Test	T-Test	medial deviation	95% confidence interval	
							lower	upper					lower	upper					lower	upper
# of Ideas		+	19	+		0,107	-2,363	2,577	17	+		-1,137	-3,963	1,688	18	+		0,965	-2,309	4,239
I-S	experience	-	19	+		**-0,358**	**-0,669**	**-0,047**	17	+		-0,380	-1,115	0,355	18	+		**0,737**	**0,183**	**1,291**
	opinion	+	19	+		0,772	-1,458	3,001	17	+		-1,228	-3,585	1,129	18	+		0,351	-2,643	3,345
	action	-	19	-		-0,307	-0,877	0,263	17	+		0,471	-0,521	1,463	18	+		-0,123	-0,518	0,272
I-T 1	context	+	19	+		0,991	-0,830	2,813	17	+		-0,564	-2,437	1,308	18	+		-0,509	-1,964	0,946
	product	-	19	+		-0,884	-2,095	0,327	17	+		-0,573	-2,217	1,071	18	+		1,474	-0,535	3,482
I-T 2	user	-	19	+		0,213	-0,652	1,079	17	+		-0,015	-1,169	1,140	18	+		-0,210	-1,256	0,835
	domain	-	19	+		0,706	-0,345	1,757	17	+		0,123	-0,983	1,228	18	+		-0,860	-1,740	0,021
	competitor	-	19	+		-0,118	-0,628	0,393	17	-		-0,462	-0,980	0,056	18	+		**0,561**	**0,045**	**1,077**
	infrastructure	-	19	-		0,187	-0,032	0,406	17	-		**-0,263**	**-0,263**	**-0,263**	18	-		0,053	-0,343	0,448
	usp	-	19	+		-0,426	-1,093	0,241	17	+		0,251	-0,707	1,210	18	-		0,211	-0,829	1,250
	function	-	19	+		-0,352	-1,042	0,339	17	+		-0,591	-1,389	0,207	18	+		0,930	-0,253	2,113
	design	-	19	-		-0,104	-0,353	0,146	17	-		-0,181	-0,394	0,031	18	-		0,281	-0,175	0,737
Content	Lifestyle	+	19	+		1,406	-0,057	2,869	17	+		-0,488	-1,930	0,954	18	+		-1,018	-2,146	0,111
	Product/ Service	-	19	+		-0,454	-0,959	0,052	17	+		-0,515	-1,077	0,048	18	+		**0,965**	**0,208**	**1,722**
	Design Pref.	-	19	+		-0,288	-0,666	0,090	17	+		**-0,421**	**-0,802**	**-0,040**	18	+		0,702	-0,078	1,482
	Functional Req.	-	19	+		**-1,839**	**-2,880**	**-0,798**	17	+		0,228	-2,079	2,535	18	+		1,719	-0,560	3,999
	Communic. Req.	-	19	+		0,324	-0,336	0,983	17	+		0,363	-0,522	1,247	18	+		**-0,684**	**-1,117**	**-0,251**
	Informational Req.	-	19	+		0,213	-0,788	1,214	17	+		0,485	-0,797	1,768	18	+		-0,684	-1,541	0,173
Quality	uniqueness	+	19	+		**0,136**	**0,062**	**0,209**	17	+		-0,035	-0,184	0,114	18	+		**-0,110**	**-0,197**	**-0,022**
	relevance	+	19	+		**0,139**	**0,044**	**0,234**	17	+		**-0,137**	**-0,249**	**-0,026**	18	+		-0,016	-0,110	0,078
	clearness	+	19	+		**0,092**	**0,028**	**0,157**	17	+		-0,084	-0,199	0,030	18	+		-0,017	-0,128	0,094

= level of significance > 0,05 = level of significance = 0,05 = level of significance = 0,01

+/- = normal distribution confirmed/rejected with p < 0,05

% = distribution without variance, Kolmogorov-Smirnov test could not be executed

6.6.2.3.2.5 Anecdote Circle

Conducted t-tests confirm the initial finding of the efficacy of anecdote circle to be significantly effected by national culture. In terms of general number of ideas generated the German sample performed significantly better than average with this method. In contrast the Chinese one generated significantly less insights than average and the Korean one achieved rather mediocre results. Despite the rather low overall cultural efficacy of this method for the Chinese sample, in terms of the quality criterion relevance, this sample scores significantly above average and higher than its Korean and German counterparts. Hence, insights generated by Chinese participates were more unique than those of the Korean and German users as a comparison of medial deviations of Table 6.29 shows. The effect size, however, is rather low.

Regarding the source of information, t-tests show that German users made statements based on personally experienced situations significantly more often than average. Again, the Korean sample's scores are situated in the middle around the expected theoretical average and the Chinese one's below that. The data further suggests that the Chinese sample referred towards context in general and the specific domain of product use significantly less than average. While the general part of this statement holds, findings in regard to domain-specific information seem quite misleading, as for this measure's distribution t-test premises cannot be met and more robust non-parametric tests (ref. Table 6.24) prove quite the opposite. For specific measures taken, i.e. second level measures of information target and content of information, reasonably enough normal distribution can only be confirmed for user generated insights concerning the general lifestyle. The data suggests that Korean and German participants made statements concerning general lifestyle more often than the Chinese ones. The high level of significance for the German and the comparatively low significance of the Korean one, thereby can be attributed to effects of these samples' standard deviations, as the analysis of the 95% confidence interval shows.

For the further analysis of taken sub-measures results of the Kruskal-Wallis tests are to be utilized. In regard to information target these indicate that the German sample made references about the user significantly more often than the Chinese and especially the Korean one. Hence, the amount of insights collected about the competitive landscape seems to be effected by culture; Chinese users scored significantly higher than Korean and German ones. Regarding the content of information significant effects of national culture could be established for specific products/services users referred to as well as for informational requirements of the product to be developed. Thereby, German users made significantly more reference towards specific products and services than Chinese and Korean participants. With Korean participants, though, this method yielded significantly more insights about informational requirements than with German and especially Chinese participants.

Table 6.29: Cultural Efficacy Anecdote Circle (T-Test)

N = 57		Σ	China						Korea						Germany					
		K-S Test	N	K-S Test	T-Test	medial deviation	95% confidence interval		N	K-S Test	T-Test	medial deviation	95% confidence interval		N	K-S Test	T-Test	medial deviation	95% confidence interval	
							lower	upper					lower	upper					lower	upper
# of Ideas		+	20	+		-1,338	-2,542	-0,134	18	+		0,190	-1,497	1,877	19	+		1,228	-0,279	2,736
I-S	experience	-	20	+		-0,575	-1,041	-0,110	18	+		-0,009	-0,883	0,865	19	+		0,614	-0,274	1,503
	opinion	+	20	+		-0,303	-1,173	0,568	18	+		0,114	-0,884	1,112	19	+		0,211	-0,957	1,378
	action	-	20	+		-0,460	-1,055	0,136	18	+		0,085	-0,825	0,995	19	+		0,404	-0,194	1,001
I-T 1	context	+	20	+		-1,186	-2,298	-0,074	18	+		-0,053	-1,775	1,670	19	+		1,298	-0,037	2,633
	product	-	20	-		-0,152	-0,473	0,169	18	+		0,243	-0,335	0,820	19	+		-0,070	-0,471	0,330
I-T 2	user	-	20	+		0,217	-0,470	0,904	18	%		-2,333	-2,333	-2,333	19	+		1,982	0,928	3,037
	domain	-	20	+		-0,842	-1,538	-0,146	18	+		0,491	-0,588	1,570	19	+		0,421	-0,655	1,497
	competitor	-	20	-		0,284	-0,100	0,668	18	-		-0,094	-0,415	0,228	19	-		-0,211	-0,363	-0,059
	infrastructure	-	20	-		0,015	-0,090	0,120	18	-		0,020	-0,097	0,138	19	%		-0,035	-0,035	-0,035
	usp	-	20	-		-0,113	-0,285	0,058	18	-		0,237	-0,190	0,663	19	-		-0,105	-0,286	0,075
	function	-	20	-		-0,011	-0,203	0,182	18	-		0,012	-0,261	0,284	19	-		0,000	-0,202	0,202
	design	-	20	-		-0,028	-0,220	0,164	18	-		-0,006	-0,279	0,267	19	-		0,035	-0,318	0,389
Content	Lifestyle	+	20	+		-0,975	-1,955	0,004	18	+		0,602	-0,975	2,180	19	+		0,456	-0,636	1,548
	Product/ Service	-	20	-		-0,287	-0,608	0,034	18	-		-0,570	-0,826	-0,314	19	+		0,842	0,155	1,530
	Design Pref.	-	20	-		-0,111	-0,255	0,034	18	-		0,012	-0,201	0,224	19	-		0,105	-0,256	0,466
	Functional Req.	-	20	+		0,054	-0,555	0,664	18	+		0,143	-0,451	0,738	19	+		-0,193	-0,825	0,439
	Communic. Req.	-	20	-		-0,211	-0,486	0,063	18	-		-0,061	-0,413	0,290	19	+		0,281	-0,051	0,612
	Informational Req.	-	20	-		-0,464	-0,693	-0,235	18	+		0,219	-0,271	0,709	19	+		0,281	-0,318	0,880
Quality	uniqueness	+	20	+		0,062	-0,087	0,212	18	+		0,001	-0,168	0,170	19	+		-0,067	-0,186	0,053
	relevance	+	20	+		0,239	0,117	0,361	18	+		-0,029	-0,228	0,170	19	+		-0,224	-0,316	-0,132
	clearness	-	20	+		-0,107	-0,278	0,063	18	+		-0,085	-0,229	0,059	19	+		0,194	0,140	0,247

= level of significance > 0,05 = level of significance = 0,05 = level of significance = 0,01

+/- = normal distribution confirmed/rejected with p < 0,05

% = distribution without variance, Kolmogorov-Smirnov test could not be executed

6.6.2.3.2.6 Inspiration Card Workshop

Data collected through inspiration card workshops meet requirements for valid t-test analysis merely for the general amount of ideas generated, the three quality dimensions, except uniqueness in the Korean case, lifestyle and the information targets context, user and domain (ref. Table 6.30). Thus, other findings are to be explained through non-parametric test results (ref. Table 6.24). On general level, i.e. in terms of number of overall ideas generated and quality, t-tests clearly support initial results from above. So, generated this method significantly more insights than average with the German sample and significantly less with the Korean one. Also the Chinese sample scored rather above average, as the medial deviation shows; this sample's standard deviation, though, is to large to allow drawing assumptions above the required significance level (i.e. with s < 0.05) from that. In terms of uniqueness of gathered insights, the German sample clearly scores the highest, followed by the Chinese and finally the Korean one. This tendency also holds true in regard to information clearness, though the latter two samples switch ranks. Hence, data suggest that while the German sample scores significantly above and the Chinese sample significantly below average, the Korean sample equals nearly the expected mean of $\overline{X}$ = 0.0.

In regard to information source non-parametric sample comparison confirms a significant effect of national culture only for collected user-opinions. So, relied the German sample the most on personal opinions as a source of information, while the Korean one did so the least. The same tendency can be established in regard to user-generated insights addressing the general context and there especially the user and the product-domain in terms of information targets. Opposed to that, the product was addressed by the Chinese sample significantly more often than by the German and particular the Korean one, which made the fewest references of this kind. This finding also is reflected in user-generated insights about specific product functions.

Concerning the content of information, data suggests that lifestyle related insights were communicated by Korean users significantly less than average. For both other national samples, though, significant effects cannot be established. Obviously as a result of this cultures high efficacy in terms of revealing functional insights with this method, the content of Chinese users' comments could be associated with functional requirements of the product to be developed the most. Communicational and informational requirements, though, were rather objective of the German participants' comments. The Korean sample can be confirmed the least efficient one in regard to this method, throughout all dimensions of measurement.

Table 6.30: Cultural Efficacy Inspiration Card Workshop (T-Test)

N = 57		Σ	China						Korea						Germany					
		K-S Test	N	K-S Test	T-Test	medial deviation	95% confidence interval		N	K-S Test	T-Test	medial deviation	95% confidence interval		N	K-S Test	T-Test	medial deviation	95% confidence interval	
							lower	upper					lower	upper					lower	upper
# of Ideas		+	19	+		1.158	-0.903	3.219	21	+		**-2.584**	**-3.522**	**-1.646**	17	+		1.898	0,333	3,463
I-S	experience	-	19	-		-0.140	-0.292	0.012	21	-		-0.055	-0.288	0.178	17	-		0.225	-0,186	0,636
	opinion	-	19	+		0.404	-1.245	2.052	21	+		**-1.875**	**-2.473**	**-1.276**	17	+		**1.865**	**0,717**	**3,013**
	action	-	19	+		0.895	-0.181	1.971	21	+		-0.654	-1.300	-0.008	17	+		-0.192	-1,387	1,003
I-T 1	context	+	19	+		0.632	-1.147	2.410	21	+		**-2.110**	**-3.048**	**-1.172**	17	+		**1.901**	**0,584**	**3,218**
	product	-	19	+		0.526	-0.007	1.059	21	%		**-0.474**	**-0.474**	**-0.474**	17	-		-0.003	-0,453	0,447
I-T 2	user	+	19	+		-0.088	-1.178	1.003	21	+		**-1.248**	**-1.886**	**-0.611**	17	+		**1.640**	**0,475**	**2,805**
	domain	+	19	+		0.544	-0.373	1.461	21	+		-0.817	-1.531	-0.103	17	+		0.401	-0,172	0,975
	competitor	-	19	-		0.035	-0.075	0.146	21	%		**-0.018**	**-0.018**	**-0.018**	17	%		**-0.018**	**-0,018**	**-0,018**
	infrastructure	-	19	-		0.140	-0.130	0.411	21	-		-0.028	-0.164	0.109	17	%		**-0.123**	**-0,123**	**-0,123**
	usp	-	19	%		**-0.018**	**-0.018**	**-0.018**	21	%		**-0.018**	**-0.018**	**-0.018**	17	-		0.041	-0,083	0,166
	function	-	19	+		0.544	0.011	1.077	21	-		**-0.456**	**-0.456**	**-0.456**	17	-		-0.044	-0,492	0,403
	design																			
Content	Lifestyle	+	19	+		0.561	-0.753	1.875	21	+		-1.020	-1.803	-0.237	17	+		0.633	-0,681	1,946
	Product/ Service	-	19	-		0.035	-0.167	0.237	21	-		**-0.175**	**-0.175**	**-0.175**	17	-		0.178	-0,076	0,431
	Design Pref.																			
	Functional Req.	-	19	+		0.895	-0.102	1.891	21	-		**-0.967**	**-1.200**	**-0.734**	17	+		0.195	-0,459	0,849
	Communic. Req.	-	19	+		0.333	-0.310	0.977	21	-		-0.602	-1.045	-0.158	17	+		0.370	-0,173	0,914
	Informational Req.	-	19	+		-0.053	-0.550	0.445	21	-		**-0.604**	**-0.849**	**-0.359**	17	+		0.805	0,014	1,596
Quality	uniqueness	+	19	+		-0.013	-0.124	0.098	21	-		-0.219	-0.402	-0.036	17	+		**0.285**	**0,193**	**0,377**
	relevance	+	19	+		0.041	-0.093	0.175	21	+		-0.120	-0.312	0.073	17	+		0.102	-0,022	0,226
	clearness	+	19	+		**-0.182**	**-0.306**	**-0.058**	21	+		0.080	-0.040	0.200	17	+		0.105	0,023	0,186

= level of significance > 0.05 = level of significance = 0.05 = level of significance = 0.01

+/- = normal distribution confirmed/rejected with p < 0,05

% = distribution without variance, Kolmogorov-Smirnov test could not be executed

6.6.2.3.3 Summary

Analysis above proves culture to strongly influence results collected through different user analysis methods in regard to various measures. Hence, discussions show that often enough cultural efficacy is measurement dependant. So could interviews conducted in Korea be proved to have a particularly low relative cultural efficacy in revealing user opinions, in regard to insights addressing contextual issues, however, no other country reached a higher rate of efficacy with this method. Therefore, the judgement of overall cultural efficacies of different measures merely based on global measures, i.e. general amount of ideas generated and the quality dimension, would be misleading.

The average of achieved ranks assigned to all measures by method and culture, based on Kruskal-Wallis tests as summarized in Table 6.24, provides a more robust judgement base. Due to interdependencies between measurement dimensions, better results are achieved by first averaging ranks within each dimension separately and then calculating the gross average rank for each method and culture. Due to its high interrelation with information targets, he content of information will be left out by this calculation. Table 6.31 provides an overview. This gross average rank, together with findings established above, show that:

1. **interviews** reached their highest cultural efficacy in Germany followed by Korea and China. The detailed analysis above further shows that this result cannot be attributed to an throughout outstanding performance of this method in Germany, but rather to an average performance in Germany paired with comparatively weak performance in China and an highly volatile performance, depending on measure, for Korea.
2. **puzzle interviews** yielded their highest efficacy in Korea, its second highest in China and its lowest in Germany. In regard to this, one can clearly speak of a predominance this method has in Korea.
3. **cultural probes** were clearly more successful in China than in Korea. Despite low sample sizes and return rates valuable insights are still expected to be revealed when connecting these results with facilitators and obstacles on personal level.
4. **focus groups** reached the highest gross average rank in Germany, closely followed by the Chinese sample, and clearly the lowest ranking in Korea. Even though, a look at medial deviations, as established by t-tests (ref. Table 6.28), as well as levels of significance established by Kruskal-Wallis tests outside the content dimension (ref. Table 6.24), reveals that this ranking cannot be attributed to some kind of predominance of this method in Germany, this general tendency still holds.
5. **anecdote circles** clearly reached their overall lowest efficacy in China. With a distance of only 0.02 rank points between Korea and Germany, this method's cultural efficacy seems to be almost equally. A clear judgement for which culture the higher efficacy can be confirmed, thus, is difficult to make.
6. **inspiration card workshops** their highest performance in Germany, followed by China in the second and Korea in the third place. The detailed analysis above proves that this ranking can

be attributed to a throughout above average efficacy achievement by the German and a throughout below average achievement by the Korean sample. The Chinese one achieved constantly mediocre results.

Table 6.31: Cultural Efficacy – Average Ranks

	Kruskal-Wallis Tests																	
method	**int**			**puz**			**cp**			**fg**			**ac**			**ins**		
country	**cn**	**kr**	**de**	**cn**	**kr**	**de**	**cn**	**kr**	**de**	**cn**	**kr**	**de**	**cn**	**kr**	**de**	**cn**	**kr**	**de**
# of ideas	3.00	2.00	**1.00**	2.00	1.00	3.00	**1.00**	2.00		2.00	3.00	**1.00**	3.00	2.00	1.00	2.00	3.00	**1.00**
information source	2.33	**1.67**	2.00	2.50	**1.00**	3.00	**1.00**	2.00		2.00	2.33	**1.67**	3.00	1.67	**1.33**	2.00	2.67	**1.33**
information target – all	2.00	2.00	2.00	2.00	**1.00**	3.00	**1.00**	2.00		2.00	2.50	**1.50**	3.00	1.50	1.50	1.50	3.00	1.50
information target – context	2.00	**1.75**	2.25	1.33	1.33	3.00	**1.00**	2.00		**1.25**	2.50	2.25	2.00	**1.75**	2.25	**1.50**	2.75	2.00
information target – product	**1.33**	3.00	1.67	2.00	**1.33**	3.00	**1.00**	1.33		2.33	2.33	**1.33**	2.00	2.00	2.00	1.67	2.33	**1.33**
quality	2.33	2.33	**1.33**	2.00	**1.67**	2.33	**1.00**	2.00		**1.00**	2.67	2.33	2.00	**1.67**	2.33	2.33	2.67	**1.00**
gross average rank*	2.17	2.13	**1.71**	1.97	**1.22**	2.89	**1.00**	1.89		1.76	2.56	**1.68**	2.50	1.76	**1.74**	1.83	2.74	**1.36**

int = interview; puz = puzzle interview; cp = cultural probe; fg = focus group; ac = anecdote circle; ins = inspiration card workshop

6.6.2.4 Analysing Methodological Variance

In accordance to previous analysis, effects induced by abstract characteristics of distinct methods applied on application efficacy will be analysed within the following chapters. In a first step, therefore variances in obtained results across methods are revealed by centring measures around the mean of all methods for each country. By this, the overall centre across all methods within each culture is fixed to $\overline{X}$ = 0.0. In a second step, single-user methods and group methods will be analysed separately to enhance research quality and ensure comparability. For both cases, deviations of each method's centres within each culture and method group can thus directly be attributed to effects induced by the respective method.

6.6.2.4.1 Method, Culture and Methodological Efficacy

Table 6.32 summarizes results of conducted non-parametric analysis of methodological effects on taken measurements for each culture. Mann-Whitney tests were conducted to analyse in how far occurring effects can be attributed to single-user or group methods, respectively.

Established results clearly indicate a significant higher efficacy of single-user methods for nearly all established significant effects across cultures. This clearly backs initial findings revealed by the general data analysis (ref. chapter 6.6.2.1.1). The only exception are personal experiences revealed by participants of the German sample.

At first sight Mann-Whitney tests might seem surprising, as they contradict what research on cultural dimensions, such as individualism and collectivism, would predict. Cross-cultural research would suggest group methods to be likely to achieve better results than single-user methods in collectivist countries, such as China and Korea. In contrast results prove group-methods not to be able to utilize collectivistic characteristics of south-east Asian countries in terms of application efficacy as single-user

methods achieved better results across all cultural samples. This tendency is further backed by results of the analysis of cultural efficacy (ref. chapter 6.6.2.3). The reason for this throughout higher efficacy of group methods in Germany than in Korea and China is difficult to pin down. One line of argument could be that group-composition, -norms and –dynamics influencing successful method application adhere to different parameters in China and Korea than in Germany. To ensure comparability of method application, participant-recruitment, introduction and method-execution was conducted in exactly the same way across cultures. Thereby, attention was paid that groups mainly consisted of participants who were not acquaintants. This, one can expect to negatively affect the efficacy of group methods in China and Korea, due to existing social and communication norms within those cultures. A conclusive assessment of effects at work, however, cannot be made based on data on and requires further investigation.

Besides the high level analysis between single-user and group methods, conducted Kruskal-Wallis tests clearly show that the amount and quality of collected user insights are strongly affected by user-analysis method applied. Data comprehensively proves that one cannot simply speak of one best suitable method for data-collection. As already discussed at length, method applicability can only be defined based on the three components method feasibility, application efficacy and explanation utility (ref. chapter 4.2). Goals pursued with method application, thus play an important role in determining method applicability. Abstract and within this study prefixed method characteristics determine by and large in how far a method us suitable for contributing to specific goals and at the same time constrain the methodological efficacy with which insights serving respective goals can be revealed. In consequence, the methodology delivering the highest overall ratio of insights is not necessarily the most applicable one, as only insights adding to goals pursued with method application are of value. The analysis on hand backs this theoretical contemplation. Puzzle interviews, for incidence, achieved the highest amount of overall insights per user in all three countries. Their efficacy in revealing user-experiences or contextual information, however, is in all cases extremely low. The following chapters will provide more in-depth analysis of respective efficacy measures for each culture.

Table 6.32: Methodological Efficacy - Overview

N = 248		China											Korea										Germany									
		M-W-Test			K-W-Test (rank*)								M-W-Test			K-W-Test (rank*)							M-W-Test			K-W-Test (rank*)						
		sig.	single	group	sig.	int	puz	cp	fg	ac	ins		sig.	single	group	sig.	int	puz	cp	fg	ac	ins		sig.	single	group	sig.	int	puz	cp	fg	ac	ins
# of Ideas		■	+	-	■	2	1	4	3	6	5		■	+	-	■	2	1	6	3	4	5		■	+	-	■	2	1		3	4	5
I-S	experience				■	2	6	3	4	1	5					■	2	5	6	3	1	4		■	-	+	■	3	5		2	1	4
	opinion	■	+	-	■	2	1	4	3	6	5		■	+	-	■	2	1	6	3	4	5		■	+	-	■	2	1		3	5	4
	action				■	3	6	1	4	5	2					■	1	6	5	2	3	4					■	1	5		4	2	3
I-T 1	context				■	1	6	2	3	5	4		■	+	-	■	1	2	6	4	3	5					■	1	5		4	2	3
	product	■	+	-	■	2	1	6	3	5	4		■	+	-	■	3	1	6	2	4	5		■	+	-	■	2	1		3	4	5
I-T 2	user				■	2	6	1	3	5	4					■	1	5	4	2	6	3					■	1	5		4	3	2
	domain				■	1	6	3	2	5	4		■	+	-	■	2	1	5	4	3	6					■	1	5		4	2	3
	competitor				■	1	6	3	2	4	5					■	1	4	5	2	3	6					■	2	5		1	3	4
	infrastructure	■	+	-	■	6	3	5	4	1	2					■	1	2	6	5	4	3					■	1	5		2	3	4
	usp	■	+	-	■	6	5	2	4	3	1					■	3	1	6	2	4	5					■	1	5		2	3	4
	function	■	+	-	■	2	1	6	3	5	4		■	+	-	■	3	1	6	2	4	5		■	+	-	■	2	1		3	5	4
	design				■	1	5	4	2	3	6					■	1	3	6	2	4	5		■	+	-	■	1	4		2	3	5
Content	Lifestyle				■	1	6	2	3	4	5					■	1	4	6	3	2	5					■	1	5		4	2	3
	Product/ Service	■	+	-	■	2	6	1	3	4	5					■	1	5	3	2	4	6					■	1	5		2	3	4
	Design Pref.	■	+	-	■	1	3	4	2	5	6		■	+	-	■	1	2	5	3	4	6					■	1	5		2	3	4
	Functional Req.	■	+	-	■	2	1	6	3	5	4		■	+	-	■	2	1	6	3	4	5		■	+	-	■	2	1		3	5	4
	Communic. Req.				■	1	4	6	2	5	3		■	+	-	■	2	1	6	3	4	5					■	1	5		4	3	2
	Informational Req.				■	1	3	6	2	5	4		■	+	-	■	2	1	5	3	4	6					■	1	5		2	4	3
Quality	uniqueness				■	2	3	5	1	4	6					■	3	1	5	2	4	6		■	+	-	■	1	3		2	4	5
	relevance				■	3	1	5	2	4	6		▒	+	-	■	3	1	6	2	4	5		■	+	-	■	2	1		3	5	4
	clearness				■	2	3	5	1	4	6		■	+	-	■	2	1	6	3	4	5					■	1	4		3	2	5

▒ = level of significance = 0,05 ■ = level of significance = 0,01

6.6.2.4.2 Relative Methodological Efficacy per Culture

In accordance to the analysis of cultural efficacy in chapter 6.6.2.3.2 one sample t-tests of the inter-methodological and intra-cultural mean for each culture are utilized for revealing each method's relative efficacy per culture. Methods will be compared here within their respective method-group, i.e. single-user and group methods will be considered separately. This seems necessary due to the fact that for gross measure distributions across all methods premises for valid t-testing could not be established; for separate method-groups, though, reasonably well. Established significant positive and negative deviations thus will facilitate judgements about a methods efficacy concerning a specific measure within one national culture and method group. Again, for cases in which data requirements of the t-tests cannot be met, findings of Kruskal-Wallis comparisons will be utilized.

6.6.2.4.2.1 China

Table 6.33 below summarizes findings regarding the methodological efficacy of different single-user methods in China. Just like in all other national samples, the puzzle interview method is the most efficient single-user method in regard to the general amount of insights gathered. For measures not related to functional issues of the product to be developed, though, conducted t-tests prove one of the

other two measures to be the method of choice. Hence, the analysis shows that puzzle interviews rely heavily on user opinions as a source of information and are not at all applicable for eliciting experiences and actions. In regard to experiences conducted Kruskal-Wallis tests suggest regular interviews to be the most successful single user method. User actions, thought, are most effectively collected through cultural probes.

The extremely high efficacy of puzzle interviews in revealing insights about the product must be nearly entirely attributed to functional insights, what abates this method's efficacy in general product terms significantly. On this, interviews seem to be the more balanced method as they also delivered valid insights regarding product design and unique selling propositions in significant scope as Kruskal-Wallis tests prove. For revealing insights directly addressing the product, cultural probes are the least effective and efficient ones. They possess a certain strength, however, in delivering contextual information and particularly information about the user. Again, interviews seem to be the more balanced method in regard to the second level of information target, as they delivered a reasonable amount of insights at least regarding two contextual measures, i.e. domain and competitors, and one product related measure, i.e. design. In regard to revealing infrastructural insights all the three methods seem to be equally inefficient.

In regard to the content of delivered insights, interviews clearly dominate the field. Cultural probes and puzzle interviews could only excel in regard to one measure each, i.e. products/services referred to or functional requirements, respectively. In both cases interviews ranked second in terms of efficacy.

Concerning quality measures as applied within this research the efficacy of cultural probes must be judged as throughout weak. Interviews, on the contrary, delivered the most unique as well as the clearest insights, while ideas produced by puzzle interviews can be judged as the most relevant ones for product development.

Table 6.33: Methodological Efficacy Single-User Methods China

N = 30		K-W Tests			T-Tests																		
					Σ	interview						puzzle interview						cultural probe					
		interview	puzzle interview	cultural probe	K-S Test	N	K-S Test	T-Test	medial deviation	95% confidence interval		N	K-S Test	T-Test	medial deviation	95% confidence interval		N	K-S Test	T-Test	medial deviation	95% confidence interval	
										lower	upper					lower	upper					lower	upper
# of Ideas		2	1	3	+	10	+		-6,833	-12,041	-1,626	10	+		22,467	21,005	23,929	10	+		-15,633	-18,945	-12,321
I-S	experience	1	3	2	-	10	+		0,433	-0,224	1,091	10	%					10	+		0,333	-0,195	0,861
I-S	opinion	2	1	3	+	10	+		-7,100	-10,801	-3,399	10	+		26,000	24,538	27,462	10	+		-18,900	-21,213	-16,587
I-S	action	2	3	1	+	10	+		-0,167	-1,957	1,624	10	%					10	+		2,933	1,386	4,480
I-T 1	context	2	3	1	+	10	+		2,967	0,345	5,589	10	%					10	+		2,967	-0,058	5,991
I-T 1	product	2	1	3	+	10	+		-9,800	-12,927	-6,673	10	+		28,400	27,743	29,057	10	-		-18,600	-19,052	-18,148
I-T 2	user	2	3	1	+	10	+		0,167	-1,131	1,464	10	+		-3,033	-3,802	-2,264	10	+		2,867	0,836	4,897
I-T 2	domain	1	3	2	+	10	+		1,933	0,135	3,732	10	+		-1,967	-2,641	-1,292	10	+		0,033	-1,183	1,249
I-T 2	competitor	1	3	2	-	10	+		0,567	0,114	1,019	10	%					10	+		0,067	-0,416	0,550
I-T 2	infrastructure				-	10	+		0,367	-0,421	1,154	10	+		-0,333	-0,703	0,036	10	+		-0,033	-0,791	0,725
I-T 2	usp	1	2	3	-	10	+		1,200	-0,151	2,551	10	+		-0,100	-0,437	0,237	10	-		-1,100	-1,100	-1,100
I-T 2	function	2	1	3	-	10	+		-11,600	-14,079	-9,121	10	+		28,900	28,088	29,712	10	%				
I-T 2	design	1	3	2	-	10	+		0,533	0,005	1,061	10	-		-0,367	-0,367	-0,367	10	-		-0,167	-0,619	0,286
Content	Lifestyle	1	3	2	+	10	+		3,167	0,444	5,890	10	+		-4,833	-5,673	-3,994	10	+		1,667	-0,681	4,014
Content	Product/ Service	2	3	1	+	10	+		-0,033	-0,486	0,419	10	-		-1,233	-1,233	-1,233	10	+		1,267	0,187	2,346
Content	Design Pref.	1	2	3	-	10	+		0,767	-0,175	1,709	10	+		-0,233	-0,891	0,424	10	+		-0,533	-1,229	0,162
Content	Functional Req.	2	1	3	+	10	+		-9,100	-11,513	-6,687	10	+		27,800	27,042	28,558	10	+		-18,700	-19,357	-18,043
Content	Communic. Req.	1	2	3	+	10	+		2,033	0,444	3,622	10	+		-0,467	-1,387	0,454	10	%				
Content	Informational Req.	1	2	3	+	10	+		3,667	2,120	5,214	10	+		-1,133	-1,906	-0,361	10	-		-2,533	-2,760	-2,307
Quality	uniqueness	1	2	3	-	10	+		0,098	0,034	0,161	10	+		0,047	0,029	0,065	10	+		-0,145	-0,284	-0,006
Quality	relevance	2	1	3	+	10	+		-0,001	-0,097	0,095	10	+		0,656	0,636	0,675	10	+		-0,654	-0,754	-0,554
Quality	clearness	2	1	3	+	10	+		0,109	0,012	0,205	10	+		0,046	0,033	0,058	10	+		-0,154	-0,233	-0,075

= level of significance > 0,05 = level of significance = 0,05 = level of significance = 0,01

+/- = normal distribution confirmed/rejected with p < 0,05

% = distribution without variance, Kolmogorov-Smirnov test could not be executed

T-test results regarding the methodological efficacy of group methods in China are summarized in Table 6.34. At first sight, the rather low amount of measures for which normal distribution of collected data could be confirmed strikes. In total only for 8 of 22 measures taken t-tests provide valid results. All other findings need to be supplemented through non-parametric tests. Analysis of significant variances regarding the general amount of ideas generated per user and method show that positive deviations could be established for focus groups only. Both remaining methods performed worse, anecdote circles even highly significant, than the expected average. A glance at non-parametric test results proves that this superior ranking of focus groups is by far more robust across the different measures taken than the general efficacy of puzzle interviews. Thus, focus groups perform on all but two measures better than both other group methods. Only regarding user experiences, for which the highest efficacy was achieved by anecdote circles, and actions, which were best revealed through inspiration card workshops, focus groups do not rank first. Roughly, this tendency can be confirmed by comparing medial deviations of these group methods.

Hence, the comparison is down to anecdote circles and inspiration card workshops. Further measures on which anecdote circles performed better than inspiration card workshops are insights regarding the

user, competitors, unique selling proposition, and design in terms of information targets, lifestyle and design related ideas as well as product/service referred to, and finally on all three quality measures, i.e. uniqueness, relevance and clearness. However, a pattern is hard to identify. Yet, these measures seem to be less related to functional or utility issues and to be more oriented towards the overall product experience. A clear claim for anecdote circle to better address general user-experience issues and hedonic product qualities as opposed to inspiration card workshops, however, cannot be made, as therefor established significances are too low. That inspiration card workshops generated ideas which were the least unique ones, were hardly relevant for product development and quite unclear communicated, though, can be clearly confirmed.

Table 6.34 Methodological Efficacy Group Methods China

		K-W Tests			T-Tests																		
					Σ	focus group						anecdote circle						inspiration Card Workshop					
´N = 59		focus group	anecdote circle	inspiration card workshop	K-S Test	N	K-S Test	T-Test	medial deviation	95% confidence interval		N	K-S Test	T-Test	medial deviation	95% confidence interval		N	K-S Test	T-Test	medial deviation	95% confidence interval	
										lower	upper					lower	upper					lower	upper
# of Ideas		1	3	2	+	20	+		3,334	0,864	5,803	20	+		-2,216	-3,420	-1,012	19	+		-1,177	-3,238	0,884
I-S	experience	2	1	3	-	20	+		-0,048	-0,359	0,264	20	+		0,753	0,287	1,218	19	-		-0,742	-0,894	-0,590
	opinion	1	3	2	+	20	+		3,915	1,686	6,145	20	+		-2,335	-3,205	-1,464	19	+		-1,664	-3,312	-0,015
	action	3	2	1	-	20	-		-0,534	-1,104	0,036	20	+		-0,634	-1,230	-0,038	19	+		1,229	0,153	2,305
I-T 1	context				+	20	+		1,331	-0,491	3,152	20	+		-0,970	-2,081	0,142	19	+		-0,380	-2,159	1,399
	product	1	3	2	-	20	+		2,003	0,792	3,214	20	-		-1,247	-1,568	-0,925	19	+		-0,797	-1,329	-0,264
I-T 2	user				-	20	+		0,221	-0,644	1,087	20	+		-0,179	-0,866	0,508	19	+		-0,045	-1,135	1,046
	domain				-	20	+		0,572	-0,479	1,623	20	+		-0,678	-1,374	0,018	19	+		0,111	-0,806	1,028
	competitor	1	2	3	-	20	+		0,375	-0,136	0,885	20	-		0,075	-0,310	0,459	19	-		-0,473	-0,583	-0,362
	infrastructure	1	3	2	-	20	-		0,196	-0,023	0,415	20	-		-0,204	-0,309	-0,100	19	-		0,009	-0,262	0,280
	usp	1	2	3	-	20	+		0,676	0,009	1,343	20	-		-0,274	-0,445	-0,102	19			-0,424	-0,424	-0,424
	function	1	3	2	-	20	+		1,164	0,473	1,854	20	-		-0,986	-1,178	-0,794	19	+		-0,186	-0,719	0,346
	design	1	2	3	-	20	-		0,131	-0,119	0,380	20	-		0,031	-0,162	0,223	19			-0,170	-0,170	-0,170
Content	Lifestyle				+	20	+		1,187	-0,276	2,651	20	+		-0,563	-1,542	0,417	19	+		-0,657	-1,971	0,657
	Product/ Service	1	2	3	-	20	+		0,408	-0,098	0,913	20	-		-0,092	-0,414	0,229	19	-		-0,332	-0,534	-0,130
	Design Pref.	1	2	3	-	20	+		0,495	0,117	0,873	20	-		-0,205	-0,349	-0,061	19			-0,305	-0,305	-0,305
	Functional Req.	1	3	2	+	20	+		1,278	0,237	2,319	20	+		-1,022	-1,631	-0,413	19	+		-0,269	-1,266	0,727
	Communic. Req.	1	3	2	-	20	+		0,681	0,021	1,340	20	-		-0,820	-1,094	-0,545	19	+		0,146	-0,497	0,790
	Informational Req.	1	3	2	-	20	+		1,645	0,644	2,646	20	-		-1,155	-1,384	-0,926	19	+		-0,516	-1,013	-0,018
Quality	uniqueness	1	2	3	+	20	+		0,367	0,294	0,441	20	+		0,056	-0,093	0,206	19	+		-0,446	-0,557	-0,335
	relevance	1	2	3	+	20	+		0,436	0,341	0,531	20	+		0,019	-0,104	0,141	19	+		-0,479	-0,613	-0,345
	clearness	1	2	3	+	20	+		0,328	0,263	0,392	20	+		-0,050	-0,220	0,120	19	+		-0,292	-0,417	-0,168

= level of significance > 0,05 = level of significance = 0,05 = level of significance = 0,01

+/- = normal distribution confirmed/rejected with p < 0,05

% = distribution without variance, Kolmogorov-Smirnov test could not be executed

6.6.2.4.2.2 Korea

The efficacy of tested single-user methods in regard to taken measures with the Korean sample is summarized in Table 6.35. Cultural probes were the method which yielded the worst results of all three methods in regard to nearly all measures. Due to low return-rates and sample quality, findings regarding this method are difficult to validate. Only in terms of user-actions described, insights regarding the user as well as products/services referred to, cultural probes performed better than

puzzle interviews. This finding, however, is strongly affected by the puzzle interview's bias towards the product and functional issues already discussed.

Just like for the Chinese case, for the Korean sample this bias is clearly proven through conducted t-tests and non-parametric tests. Thus, puzzle interviews can be confirmed to have the highest methodological efficacy for revealing insights about the product, which are based on collected user-opinions and address functional product issues, such as specific functional, communicational and informational requirements. In regard to rather contextual information about user, lifestyle and the competitive landscape, interviews are clearly the method of choice.

In terms of quality, puzzle interviews yielded user-generated insights which were more unique and relevant for product development than any other single-user method. Information collected through interviews, however, was communicated the clearest.

Table 6.35: Methodological Efficacy Single-User Methods Korea

N = 27		K-W Tests			T-tests																		
					Σ	interview						puzzle interview						cultural probe					
		interview	puzzle interview	cultural probe	K-S Test	N	K-S Test	T-Test	medial deviation	95% confidence interval		N	K-S Test	T-Test	medial deviation	95% confidence interval		N	K-S Test	T-Test	medial deviation	95% confidence interval	
										lower	upper					lower	upper					lower	upper
# of Ideas		2	1	3	+	10	+		-8,704	-12,792	-4,615	10	+		27,796	22,735	32,857	7	+		-27,275	-32,717	-21,834
I-S	experience	1	2	2	-	10	+		1,322	0,286	2,359	10	%					7	%				
	opinion	2	1	3	-	10	+		-15,270	-17,131	-13,410	10	+		33,030	27,980	38,079	7	%				
	action	1	3	2	-	10	+		5,244	2,121	8,368	10	-		-4,456	-4,682	-4,229	7	+		-1,127	-6,569	4,315
I-T 1	context	1	2	3	+	10	+		7,159	3,567	10,751	10	+		-1,341	-5,022	2,341	7	+		-8,312	-13,754	-2,871
	product	2	1	3	-	10	+		-15,863	-17,231	-14,495	10	+		29,137	26,537	31,737	7	%				
I-T 2	user	1	3	2	+	10	+		6,959	3,849	10,069	10	+		-4,141	-4,910	-3,372	7	+		-4,026	-5,410	-2,643
	domain	2	1	3	+	10	+		-0,482	-2,099	1,136	10	+		3,119	-0,548	6,785	7	+		-3,767	-8,063	0,528
	competitor	1	3	3	-	10	+		0,819	-0,011	1,648	10	%					7	%				
	infrastructure				-	10	-		0,089	-0,364	0,541	10	-		-0,011	-0,237	0,215	7	%				
	usp	2	1	3	+	10	+		-0,396	-1,023	0,230	10	+		1,304	-0,249	2,856	7	+		-1,296	-1,296	-1,296
	function	2	1	3	-	10	+		-15,933	-16,773	-15,094	10	+		28,067	25,800	30,334	7	+		-17,333	-17,333	-17,333
	design				-	10	+		0,241	-0,265	0,747	10	-		-0,059	-0,361	0,242	7			-0,259	-0,259	-0,259
Content	Lifestyle	1	2	3	+	10	+		4,959	2,503	7,415	10	+		-2,341	-3,698	-0,983	7	+		-3,741	-6,944	-0,537
	Product/ Service	1	3	2	-	10	+		0,489	-0,477	1,455	10	-		-1,011	-1,237	-0,785	7	+		0,746	-2,295	3,787
	Design Pref.	1	2	3	-	10	+		0,656	-0,485	1,797	10	+		0,356	-0,645	1,356	7	%				
	Functional Req.	2	1	3	-	10	+		-11,752	-14,286	-9,218	10	+		24,848	23,456	26,241	7	+		-18,709	-19,059	-18,359
	Communic. Req.	2	1	3	+	10	+		-0,204	-1,477	1,069	10	+		2,096	0,351	3,842	7	%				
	Informational Req.	2	1	3	+	10	+		-0,078	-1,987	1,831	10	+		5,222	1,482	8,962	7	+		-7,349	-8,398	-6,301
Quality	uniqueness	2	1	3	-	10	+		0,150	0,064	0,237	10	+		0,235	0,203	0,267	7	+		-0,550	-1,057	-0,044
	relevance	2	1	3	+	10	+		-0,145	-0,236	-0,053	10	+		0,743	0,691	0,795	7	+		-0,855	-1,306	-0,404
	clearness	1	2	3	-	10	+		0,212	0,149	0,275	10	+		0,216	0,178	0,253	7	+		-0,611	-1,063	-0,160

= level of significance > 0,05 = level of significance = 0,05 = level of significance = 0,01

+/- = normal distribution confirmed/rejected with p < 0,05

% = distribution without variance, Kolmogorov-Smirnov test could not be executed

In regard to the methodological efficacy of group methods as shown in Table 6.36 the throughout weak performance of inspiration card workshops is striking. Even though statements based on t-test results are to be made with care, as for most measures' data normal distribution cannot be confirmed, one can already say that inspiration card workshops produce in regard to all measurement dimensions

for which significant findings could be established lower, than the expected average. This is clearly confirmed by more robust non-parametric Kruskal-Wallis Tests. The only exception seem to be insights addressing the users. Thereby, inspiration card workshops were more successful than anecdote circles.

Again, the standard method focus group excels on almost all measurement dimensions. However in regard to eliciting user-experiences, contextual information in general as well as lifestyle related issues, anecdote circles achieved a higher degree of utility. For all other dimensions, for which no significant methodological effect can be confirmed, judgements regarding method efficacy can be made only with very low robustness and thus will be waived here.

Table 6.36: Methodological Efficacy Group Methods Korea

N = 57		K-W Tests			T-Tests																	
					Σ	focus group						anecdote circle						inspiration card workshop					
		focus group	anecdote circle	inspiration card workshop	K-S Test	N	K-S Test	T-Test	medial deviation	95% confidence interval		N	K-S Test	T-Test	medial deviation	95% confidence interval		N	K-S Test	T-Test	medial deviation	95% confidence interval	
										lower	upper					lower	upper					lower	upper
# of Ideas		1	2	3	+	18	+		3,459	0,633	6,285	18	+		0,681	-1,006	2,368	21	+		-3,549	-4,487	-2,611
I-S	experience	2	1	3	-	18	+		-0,222	-0,957	0,513	18	+		1,167	0,293	2,041	21	-		-0,810	-1,042	-0,577
I-S	opinion	1	2	3	-	18	+		3,368	1,011	5,726	18	+		-0,465	-1,463	0,533	21	+		-2,489	-3,087	-1,890
I-S	action				-	18	+		0,313	-0,679	1,305	18	+		-0,020	-0,931	0,890	21	+		-0,251	-0,897	0,395
I-T 1	context	2	1	3	+	18	+		0,944	-0,928	2,817	18	+		1,333	-0,389	3,056	21	+		-1,952	-2,891	-1,014
I-T 1	product	1	2	3	-	18	+		2,515	0,871	4,159	18	+		-0,652	-1,230	-0,074	21	-		-1,597	-1,597	-1,597
I-T 2	user	1	3	2	-	18	+		1,301	0,147	2,456	18	%					21	+		0,103	-0,535	0,740
I-T 2	domain				+	18	+		0,246	-0,860	1,351	18	+		0,912	-0,167	1,991	21	+		-0,993	-1,706	-0,279
I-T 2	competitor				-	18	-		0,310	-0,208	0,828	18	-		-0,023	-0,345	0,298	21	-		-0,246	-0,246	-0,246
I-T 2	infrastructure				-	18	-		-0,053	-0,053	-0,053	18	-		0,003	-0,114	0,120	21	-		0,043	-0,094	0,180
I-T 2	usp	1	2	3	-	18	+		1,058	0,100	2,017	18	-		-0,219	-0,646	0,207	21	%				
I-T 2	function	1	2	3	-	18	+		1,374	0,576	2,172	18	-		-0,515	-0,787	-0,242	21	-		-0,737	-0,737	-0,737
I-T 2	design				-	18	-		0,082	-0,131	0,295	18	-		0,082	-0,191	0,354	21	-		-0,140	-0,140	-0,140
Content	Lifestyle	2	1	3	-	18	+		0,020	-1,422	1,462	18	+		1,743	0,165	3,320	21	+		-1,511	-2,295	-0,728
Content	Product/ Service	1	2	3	-	18	+		0,556	-0,007	1,118	18	-		-0,167	-0,422	0,089	21	-		-0,333	-0,333	-0,333
Content	Design Pref.	1	2	3	-	18	+		0,386	0,005	0,767	18	-		-0,058	-0,271	0,154	21	-		-0,281	-0,281	-0,281
Content	Functional Req.	1	2	3	-	18	+		3,368	1,061	5,676	18	+		-0,909	-1,504	-0,315	21	-		-2,108	-2,341	-1,875
Content	Communic. Req.	1	2	3	-	18	+		0,994	0,110	1,879	18	-		-0,395	-0,746	-0,043	21	-		-0,514	-0,957	-0,071
Content	Informational Req.	1	2	3	-	18	+		1,854	0,571	3,137	18	+		-0,535	-1,025	-0,045	21	-		-1,130	-1,376	-0,885
Quality	uniqueness	1	2	3	+	18	+		0,377	0,228	0,526	18	+		0,174	0,005	0,344	21	-		-0,472	-0,656	-0,289
Quality	relevance	1	2	3	+	18	+		0,424	0,312	0,535	18	+		0,014	-0,185	0,213	21	+		-0,376	-0,568	-0,183
Quality	clearness	1	2	3	-	18	+		0,123	0,009	0,237	18	+		-0,056	-0,200	0,089	21	+		-0,058	-0,178	0,062

= level of significance > 0,05 = level of significance = 0,05 = level of significance = 0,01

+/- = normal distribution confirmed/rejected with p < 0,05

% = distribution without variance, Kolmogorov-Smirnov test could not be executed

6.6.2.4.2.3 Germany

A summary of the methodological efficacy of single-user methods in Germany is given in Table 6.37. Already established findings also hold for the German case. So seem puzzle interviews particularly useful for eliciting function related opinions of the user while regular interviews, as the more balanced method, yielded significantly better results on most other measurement dimensions.

Table 6.37: Methodological Efficacy Single-User Methods Germany

N = 20		K-W Tests		T-Tests													
				Σ	interview						puzzle Interview						
		interview	puzzle interview	K-S Test	N	K-S Test	T-Test	medial deviation	95% confidence interval		N	K-S Test	T-Test	medial deviation	95% confidence interval	
									lower	upper					lower	upper
# of Ideas		2	1	+	10	+		-5,600	-11,323	0,123	10	+		5,600	4,410	6,790
I-S	experience	1	2	-	10	+		0,650	-0,658	1,958	10	-		-0,650	-0,650	-0,650
	opinion	2	1	+	10	+		-7,100	-11,945	-2,255	10	+		7,100	2,422	11,778
	action	1	2	-	10	+		1,750	0,349	3,151	10	%				
I-T 1	context	1	2	+	10	+		7,200	3,293	11,107	10	-		-7,200	-7,426	-6,974
	product	2	1	+	10	+		-11,900	-14,256	-9,544	10	+		11,900	7,227	16,573
I-T 2	user	1	2	+	10	+		3,600	1,394	5,806	10			-3,600	-3,600	-3,600
	domain	1	2	+	10	+		2,950	0,739	5,161	10	-		-2,950	-3,176	-2,724
	competitor	1	2	-	10	+		0,400	-0,339	1,139	10	-		-0,400	-0,400	-0,400
	infrastructure			-	10	-		0,150	-0,196	0,496	10	%				
	usp	1	2	+	10	+		0,700	-0,069	1,469	10	-		-0,700	-0,700	-0,700
	function	2	1	+	10	+		-13,500	-15,152	-11,848	10	+		13,500	8,827	18,173
	design	1	2	-	10	+		1,000	0,326	1,674	10	%				
Content	Lifestyle	1	2	+	10	+		4,050	1,442	6,658	10	-		-4,050	-4,276	-3,824
	Product/ Service	1	2	-	10	+		1,250	0,281	2,219	10	%				
	Design Pref.	1	2	-	10	+		1,550	0,268	2,832	10	%				
	Functional Req.	2	1	+	10	+		-12,300	-15,185	-9,415	10	+		12,300	7,627	16,973
	Communic. Req.	1	2	-	10	+		0,800	-0,040	1,640	10	%				
	Informational Req.	1	2	-	10	+		4,200	1,883	6,517	10	%				
Quality	uniqueness	1	2	+	10	+		0,090	0,017	0,164	10	%				
	relevance	2	1	-	10	+		-0,344	-0,460	-0,227	10	-		0,344	0,337	0,351
	clearness	1	2	+	10	+		0,057	0,019	0,096	10	-		-0,057	-0,072	-0,043

= level of significance > 0,05 = level of significance = 0,05 = level of significance = 0,01

+/- = normal distribution confirmed/rejected with p < 0,05

% = distribution without variance, Kolmogorov-Smirnov test could not be executed

Kolmogorov-Smirnov tests across all group methods once more prove that t-tests results for analysing the methodological efficacy of group-method provide hardly reliable results (ref. Table 6.38). The only measures for which reasonably enough normal distribution as well as significant methodological effects can be confirmed are the general amount of ideas generated per user, insights regarding lifestyle and all three quality criterions. Regarding the first measure, established findings show that inspiration card workshops produced significantly less user-ideas than the average. Results prove that for revealing lifestyle-related insights, though, anecdote circles were the method of choice for the German sample. In regard to quality of user-generated insight, data confirms focus groups to produce results which are significantly more unique and relevant for product development than both other methods. In regard to clearness of communicated ideas, though, this method is of rather mediocre efficacy; anecdote circles score significantly higher. However, these rather clearly communicated insights seem often enough to have only little relevance for product development as t-test results prove. The quality of insights generated through inspiration card workshops must be judged as throughout low.

For all other measures results of Kruskal-Wallis tests are to be considered to establish valid findings. These by and large confirm the initially established rather low efficacy of inspiration card workshops in regard to most measures. Only in revealing insights about the user, this method performs significantly

better than both other methods. In revealing user-opinions, domain-specific insights, functional issues as well as lifestyle related user-comments, inspiration card workshops perform at least mediocre.

Beyond the already discussed strengths of anecdote circles, Kruskal-Wallis tests prove this method to be the one with the highest efficacy among all group methods tested in eliciting user experiences and insights about the domain. For revealing insights about nearly all information targets on the second level of analysis except for functional issues, as well as user comments conveying information about design preferences and related products or services, this method achieves a rather mediocre efficacy.

Also for the German sample focus groups yield the highest efficacy in regard to most measures taken. The only cases for which those performed exceptionally week was in revealing insights addressing the user and the domain, as well as lifestyle related issues.

Table 6.38: Methodological Efficacy Group Methods Germany

N = 55		K-W Tests			T-Tests																			
					Σ	focus group						anecdote circle						inspiration card workshop					
		focus group	anecdote circle	inspiration card workshop	K-S Test	N	K-S Test	T-Test	medial deviation	95% confidence interval lower	95% confidence interval upper	N	K-S Test	T-Test	medial deviation	95% confidence interval lower	95% confidence interval upper	N	K-S Test	T-Test	medial deviation	95% confidence interval lower	95% confidence interval upper
# of Ideas		1	2	3	+	19	+		2,758	-0,516	6,032	19	+		-1,084	-2,592	0,423	17	+		-1,871	-3,436	-0,306
I-S	experience	2	1	3	-	19	+		0,131	-0,423	0,685	19	+		1,026	0,137	1,914	17	-		**-1,293**	**-1,704**	**-0,882**
	opinion	1	3	2	-	19	+		2,979	-0,015	5,973	19	+		**-2,337**	**-3,505**	**-1,169**	17	+		-0,718	-1,866	0,430
	action				-	19	+		-0,352	-0,747	0,043	19	+		0,227	-0,371	0,824	17	+		0,140	-1,055	1,335
I-T 1	context				+	19	+		-0,909	-2,364	0,546	19	+		0,775	-0,560	2,110	17	+		0,150	-1,167	1,466
	product	1	2	3	-	19	+		**3,667**	**1,659**	**5,675**	19	+		**-1,859**	**-2,260**	**-1,459**	17	-		**-2,020**	**-2,470**	**-1,571**
I-T 2	user	3	2	1	-	19	+		-1,201	-2,247	-0,155	19	+		0,588	-0,466	1,643	17	+		0,684	-0,480	1,849
	domain	3	1	2	-	19	+		-0,843	-1,724	0,038	19	+		0,736	-0,340	1,812	17	+		0,120	-0,453	0,693
	competitor	1	2	3	-	19	+		**0,997**	**0,481**	**1,513**	19	-		**-0,477**	**-0,629**	**-0,325**	17	-		**-0,582**	**-0,582**	**-0,582**
	infrastructure				-	19	-		0,207	-0,189	0,602	19	%					17	%				
	usp	1	2	3	-	19	-		1,064	0,025	2,103	19	-		**-0,515**	**-0,695**	**-0,334**	17	-		**-0,614**	**-0,739**	**-0,489**
	function	1	3	2	-	19	+		**2,177**	**0,994**	**3,360**	19	-		**-1,244**	**-1,446**	**-1,042**	17	-		**-1,043**	**-1,490**	**-0,595**
	design	1	2	3	-	19	-		0,357	-0,099	0,813	19	-		-0,064	-0,418	0,289	17	%				
Content	Lifestyle	3	1	2	+	19	+		-0,928	-2,057	0,201	19	+		1,177	0,085	2,269	17	+		-0,278	-1,592	1,036
	Product/ Service	1	2	3	-	19	+		0,896	0,139	1,653	19	+		0,106	-0,581	0,794	17	-		**-1,120**	**-1,373**	**-0,866**
	Design Pref.	1	2	3	-	19	+		1,062	0,282	1,842	19	-		-0,412	-0,773	-0,050	17	%				
	Functional Req.	1	3	2	-	19	+		**3,903**	**1,624**	**6,183**	19	+		**-2,202**	**-2,834**	**-1,570**	17	+		**-1,902**	**-2,555**	**-1,248**
	Communic. Req.				-	19	+		-0,158	-0,591	0,275	19	+		-0,158	-0,490	0,174	17	+		0,353	-0,191	0,896
	Informational Req.				-	19	+		0,525	-0,332	1,383	19	+		-0,633	-1,231	-0,034	17	+		0,120	-0,671	0,911
Quality	uniqueness	1	2	3	+	19	+		**0,151**	**0,063**	**0,238**	19	+		-0,044	-0,164	0,076	17	+		-0,119	-0,211	-0,027
	relevance	1	3	2	+	19	+		**0,467**	**0,373**	**0,560**	19	+		**-0,259**	**-0,351**	**-0,167**	17	+		**-0,232**	**-0,356**	**-0,109**
	clearness	2	1	3	+	19	+		0,058	-0,054	0,169	19	+		**0,091**	**0,037**	**0,144**	17	+		**-0,166**	**-0,247**	**-0,084**

= level of significance > 0,05 = level of significance = 0,05 = level of significance = 0,01
+/- = normal distribution confirmed/rejected with p < 0,05
% = distribution without variance, Kolmogorov-Smirnov test could not be executed

6.6.2.4.3 Summary

The analysis above clearly proves different user-analysis methods to vary in their efficacy according to measure and country. A variance of methodological efficacy according to measurement dimensions should not come as a surprise, as at least four methods compared here are designed to analyse

particular issues and thus produce automatically biased results. So are puzzle interviews that mainly utilize cards depicting potential functions of a product to be developed and place the user in a specific scenario of use, naturally prone to reveal more specific functional and product related insights than cultural probes, which are particularly designed to collected insights about the product's and the user's context of use. Equally, anecdote circles can be understood as a very loosely structured method for revealing critical incidences of product use and therefore allow users to look at the problem-space from various perspectives based on own experiences. Inspiration card workshops, on the contrary, limit the scope of perspectives significantly through utilized function and domain cards. The standard methods interview and focus groups, though, allow a more balanced approach for revealing insights about the user, the product or the context of use depending on interview questions and focus areas defined.

Nonetheless, Table 6.39 proves that some methods serve the purpose of analysing specific issues related to user-centred product development better than other ones. So show interviews the highest gross methodological efficacy across all cultures and measures of all single-user methods and focus groups in terms of group methods. Hence, across all national samples the second highest level of single-user method efficacy was achieved by puzzle interviews and group method efficacy by anecdote circles with the exception of the Chinese case for which the second highest group method efficacy can be confirmed for inspiration card workshops. These cross-national patterns abates, however, when different measurement domains are compared.

In the following paragraphs methodological efficacies achieved by methods tested in regard to each measurement dimension and culture are summarized; being already extensively discussed, though, the measurement dimension general number of ideas will be left out here. It shall be pointed out once more that these ranks cannot be understood as absolute and axiomatic. As the detailed analysis above proves, do some methods reach extraordinary high efficacies in regard to one or two specific measures, despite achieving rather mediocre or even bad results in regard to overall measurement dimension or cross-dimensional ranks. Thus, if the research goal is to analyse particularly these specific measure, the method of choice might still be one with established overall weak performance.

Analysis of the **Chinese sample** showed that in regard to the measurement dimension:

- **information source** interviews were the overall most successful method followed by cultural probes. The same efficacy level like cultural probes was achieved across all group methods; an outperforming group-method, thus, cannot be identified. Puzzle interviews perform the worst.
- **information target (overall level)** focus groups rank first across all methods tested. Among all single-user methods none sticks out and the overall worst performing method are anecdote circles.
- **information target (context level)** the most efficient single-user method were interviews and the most efficient group method focus groups. Both other group methods performed rather bad and for puzzle interviews the lowest efficacy in regard to this measure can be confirmed.

- **information target (product level)** interviews and focus groups both achieve the highest efficacy within their group followed by puzzle interviews or anecdote circles, respectively, in the second place.
- **quality** of gathered user insights the highest overall level was reached by focus group sessions, followed by interviews, puzzle interviews and anecdote circles. Cultural probes and inspiration card workshops can be affirmed to produce insights with the lowest quality.

In **Korea**, analysis showed that in regard to the measurement dimension:

- **information source** interviews and focus groups reach the highest methodological efficacy within their respective groups. Anecdote circles reach a comparatively high overall efficacy rank, followed by puzzle interviews scoring rather low, cultural probes even lower and inspiration card workshops the lowest.
- **information target (overall level)** was equally well addressed by puzzle interviews and interviews in regard to single user methods as well as by focus groups and anecdote circles in term of group methods.
- **information target (context level)** interviews achieve the highest efficacy scores among all methods, and focus groups are the best performing group method followed by anecdote circles and inspiration card workshops.
- **information target (product level)**, puzzle interviews outperform all other single-user methods and focus groups all other group methods. Second highest efficacies reach interviews, or anecdote circles, respectively, in regard to this measurement dimension.
- **quality** of user-insights, the same ranking like for information target on product level can be confirmed.

Finally, for the **German sample** could be proved that regarding the measurement dimension:

- **information source** interviews achieved better results than puzzle interviews. Among the three group methods tested, no best performing one can be identified.
- **information target (overall level)** was equally well addressed by both single user methods. Regarding group methods, anecdote circles achieved the highest efficacy followed by focus groups and inspiration card workshops.
- **information target (context level)**, interviews seem to be the single-user method of choice. Hence, focus groups and anecdote circles, both performing equally well, reached the higher efficacies than inspiration card workshops.
- **information target (product level)** insights were best revealed by interviews, followed by puzzle interviews. Focus groups clearly outperform both other group methods.
- **quality**, of user-insights, the same ranking like for information target on product level can be confirmed with anecdote circles performing slightly better in regard to this measure.

The following table provides an overview.

Table 6.39: Methodological Efficacy – Average Ranks

	Kruskal-Wallis Tests																	
country	China						Korea						Germany					
method	single			group			single			group			single			group		
	int	puz	cp	fg	ac	ins	int	puz	cp	fg	ac	ins	int	puz	cp	fg	ac	ins
# of Ideas	2.00	**1.00**	3.00	**1.00**	3.00	2.00	2.00	**1.00**	3.00	**1.00**	2.00	3.00	2.00	**1.00**		**1.00**	2.00	3.00
information source	**1.67**	2.33	2.00	2.00	2.00	2.00	**1.33**	2.33	2.67	**1.33**	1.67	3.00	**1.33**	1.67		1.67	1.67	2.67
information target – all	2.00	2.00	2.00	**1.00**	3.00	2.00	1.50	1.50	3.00	1.50	1.50	3.00	1.50	1.50		2.00	**1.50**	2.50
information target – context	**1.25**	3.00	1.75	**1.00**	2.50	**2.50**	**1.25**	2.25	2.75	**1.75**	2.00	2.25	**1.00**	2.00		2.00	2.00	2.25
information target – product	**1.33**	2.00	2.67	**1.00**	2.33	2.67	1.67	**1.33**	3.00	**1.00**	2.00	3.00	**1.33**	1.67		**1.00**	2.33	2.67
quality	**1.33**	1.67	3.00	**1.00**	2.00	3.00	1.67	**1.33**	3.00	**1.00**	2.00	3.00	**1.33**	1.67		**1.33**	2.00	2.67
gross average rank*	**1.60**	2.00	2.40	**1.17**	2.47	2.36	**1.57**	1.63	2.90	**1.26**	1.86	2.88	**1.42**	1.58		**1.50**	1.92	2.63

int = interview; puz = puzzle interview; cp = cultural probe; fg = focus group; ac = anecdote circle; ins = inspiration card workshop

Above analysis clearly proves methods to have a significant impact on the efficacy with which respective insights can be collected. This should not come as a surprise due to each method's distinct abstract method traits which let presume significant methodological effects already at the outset of this study. Beyond, patterns of the different methods efficacy regarding different measurement dimensions across cultural samples suggest, that effects induced of abstract method characteristics can be understood as rather stable across cultures. In other words: a method, whose characteristics make it rather feasible for eliciting insights about product functions, does more or less retain this feasibility across cultures. This effect becomes clearly visible within the following analysis.

6.6.2.5 Analysing General Variance

After effects of both, national culture as well as user-analysis method applied have been analysed the question of which factor affects the efficacy of method application more needs to be addressed. Thus in a last stage; collected data centred around the mean across all national samples and methods for each measurement dimension will be scrutinized. This inter-methodological and inter-cultural perspective conflates both factors' effects as well as inter-individual variances, as those never can be ruled out.

Again, clearest and most straight-forward results would be achieved through t-test comparisons of measures of the data's central tendency. Unfortunately collected data on this level of analysis lacks sufficient normal distribution. In consequence, non-parametric Kruskal-Wallis tests are utilized to compare effect sizes of effects induced by national culture and user-analysis method applied (ref. Table 6.40). Data clearly and throughout proves that the methodological impact on obtained results is significantly stronger than the one of national culture. So can variances in obtained results be connected to analysis method applied with a significance level of 0.01 on all measurement dimensions considered. National culture seems to be linked to obtained results much less; with the same level of significance national culture explains variances only on five measures. Nonetheless, clear effects can be confirmed.

In sum, this analysis holds two important findings. First, effects of both factors, national culture and analysis method, can be established even on this high level of analysis. Second, methodological effects are significantly stronger than cultural ones. Implications of these findings will be discussed in the following chapters.

Table 6.40: Effect Size – National Culture vs. Analysis Method

		National Culture	Method
# of Ideas		0.041	0.000
I-S	experience	0.019	0.000
	opinion	0.010	0.000
	action	0.993	0.000
I-T 1	context	0.843	0.000
	product	0.095	0.000
I-T 2	user	0.000	0.000
	domain	0.285	0.000
	competitor	0.009	0.000
	infrastructure	0.000	0.003
	usp	0.698	0.000
	function	0.021	0.000
	design	0.116	0.000
Content	Lifestyle	0.177	0.000
	Product/ Service	0.000	0.000
	Design Pref.	0.703	0.000
	Functional Req.	0.159	0.000
	Communic. Req.	0.695	0.000
	Informational Req.	0.273	0.000
Quality	uniqueness	0.372	0.000
	relevance	0.024	0.000
	clearness	0.035	0.000

= level of significance = 0.05
= level of significance = 0.01

6.6.2.6 Predicting and analysing facilitators and obstacles

The concluding research question (RH6) of this empirical study aims at the potential of measures used for profiling cultural samples for explaining applied methodologies' efficacy. In reverse the intention is to analyse the possibility of predicting the efficacy of method application based on components of cultural user orientation and abstract method traits on national level. Thus, within the following chapters the endeavour will be undertaken to, first, connect intra-cultural profiles as defined in chapter 6.5.3 to methodological facilitators and obstacles on individual level as defined in chapter 6.2.2 in order to derive predictions regarding expected efficacies of respective methods for each national sample from that. Then, expected efficacies are to cross-check and to verify with actually obtained cultural and methodological efficacies established in chapter 6.6.2.3 and chapter 6.6.2.4, respectively. For clarification it seems worthwhile highlighting that for predicting cultural efficacies, intra-cultural profiles as established through factor analysis in chapter 6.5.2.2, must be seen as the primary source

of information. This perspective seems obvious, as for predicting cultural efficacies intra-cultural components at work affect method application and not relative cross-cultural comparisons. For verifying cultural efficacies in the second step, however, cross-cultural components are likely to enhance the description and analysis of effects observed, as established cultural efficacies of chapter 6.6.2.3 as well as methodological efficacies in chapter 6.6.2.4 are based the cross-cultural comparisons.

To verify expected efficacies beyond the subjective impression of the researcher gross method efficacies were calculated based on established cultural and methodological efficacies. The lower this score, the higher the combined cultural and methodological efficacy of a respective method.

6.6.2.6.1 China

6.6.2.6.1.1 Predicting efficacy

As already discussed at length (ref. chapter 6.5.2.2 and Table 6.10) the most abundant characteristic traits of the Chinese sample at work are a throughout intrinsic motivation based on fun and challenges associated with a given task, a rejection of the self-enhancement values power and achievement paired with a preference for in-group harmony, as well as comparatively high conscientiousness and extraversion scores. These factors explain more than 50% of the Chinese sample's variance on individual traits, what in turn should be expected to influence applied methods' efficacy. In combination with identified facilitators and obstacles of tested user-centred methodologies (ref. Table 6.23) this suggests regarding single-user methods particularly **interviews** to work in favour of this sample's cultural orientation. Regarding group methods, the choice between focus groups and anecdote circles seems to be more ambiguous, as factors constituting this countries profile can be more or less attributed to both methodologies. Being a supportive feature in regard to both methods, openness does not support a differentiated decision and narrows the focus down to achievement and engagement as compatible as well as enjoyment and benevolence as conflicting premises in regard to focus groups, and to socializing and intrinsic motivation as compatible as well as conservatism and extrinsic motivation as conflicting premises in regard to anecdote circles. The rejection of achievement values of the Chinese profile's second factor paired with a high intrinsic orientation of the first factor support the assumption that **anecdote circle** should suit the Chinese sample better than focus groups.

6.6.2.6.1.2 Analysing efficacy

Due to the Chinese cultural orientation one should expect interviews and anecdote circles to best suite this sample and therefore achieve the highest efficacy-rates. Regarding single-user methods the analysis of cultural and methodological efficacy, though, proves in total cultural probes and in regard to group methods focus groups to work with the highest efficacies (ref. Table 6.41). For the Chinese sample the power of taken measures to predict a method's applicability, thus, seems to be rather low.

Despite the Chinese sample can be affirmed to have the highest openness score of all three national samples and openness being one factor identified facilitating the application of cultural probes, the comparatively high efficacy of this methodology does not seem convincing. First, even though Chinese

participants show a higher openness than both other national samples, conducted factor analysis proves openness to account for only 7.7% (ref. Table 6.7) of the overall national variance and therefore seems rather unlikely to make cultural probes particularly applicable. Second, the Chinese sample scores the lowest in regard to overall creativity potential and the one embracing conservation values, i.e. security and conformity, the most. Both orientations rather suggest cultural probes particularly not suiting the Chinese sample's premises.

In consequence, the established gross efficacy of cultural probes is likely to stem rather from a throughout weak performance of other national samples in regard to this methodology and not from its suitability for the Chinese sample. Besides, already discussed problems with the application of cultural probes in Korea and Germany, particularly factor three of the Chinese national profile (ref. Table 6.10) seems to provide a comprehensive explanation backing this assumption. Hence, particularly this factor's high conscientious score must be understood as a factor making the Chinese sample to engage more self-disciplined and deliberate in any method. In combination with the fact that the efficacy of this methodology was only established relative to the Korean sample, thus, established higher efficacy scores of Table 6.41 seem convincing for the empirical study on hand, but for proving cultural probes being particularly suitable for the Chinese context and for proving wrong predicted efficacies, however, those scores do not seem sufficient. Hence, gross-efficacy results prove interviews to be the second best single user method tested with the Chinese sample and thus support initial expectations. However, comparatively low cultural, but high methodological efficacies reached with interviews abate the predictive power of measures taken, as the differentiated analysis of efficacies prove this second overall rank to be more a result of this methods higher methodological efficacy compared to puzzle interviews and not to a predominance of the Chinese sample with this method over both other national samples.

Explaining differences between predicted and observed efficacies of applied group methods, though, seems less straightforward. Based on the Chinese sample's cultural orientation one should predict anecdote circles to be particularly suitable. The analysis of gross efficacies of applied group methods, though, clearly proves focus groups to achieve the best and anecdote circles the worst results of all three methods tested. For explaining this discrepancy between predicted and observed efficacy one can identify at least two lines of argument, of which the first builds on the throughout higher efficacy of focus groups and the second on the thin line with which anecdote circles were identified as the more suitable methodology over focus groups. Most likely observed results are a combination of both. Data on hand, however, does not enable a deep and unambiguous analysis.

Table 6.41: Gross method efficacy - China

		single									group								
		int			puz			cp			fg			ac			ins		
		c	m	Ø	c	m	Ø	c	m	Ø	c	m	Ø	c	m	Ø	c	m	Ø
# of Ideas		3,00	2,00	2,50	2,00	**1,00**	1,50	**1,00**	3,00	2,00	2,00	**1,00**	1,50	3,00	3,00	3,00	2,00	2,00	2,00
I-S	experience	2,00	**1,00**	1,50	0,00	3,00	1,50	**1,00**	2,00	1,50	2,00	2,00	2,00	3,00	**1,00**	2,00	3,00	3,00	3,00
	opinion	2,00	2,00	2,00	2,00	**1,00**	1,50	**1,00**	3,00	2,00	**1,00**	**1,00**	**1,00**	3,00	3,00	3,00	2,00	2,00	2,00
	action	3,00	2,00	2,50	3,00	3,00	3,00	**1,00**	**1,00**	**1,00**	3,00	3,00	3,00	3,00	2,00	2,50	**1,00**	**1,00**	1,00
I-T 1	context	3,00	2,00	2,50	2,00	3,00	2,50	**1,00**	**1,00**	**1,00**	**1,00**	**1,00**	**1,00**	3,00	3,00	3,00	2,00	2,00	2,00
	product	**1,00**	2,00	1,50	2,00	**1,00**	1,50	**1,00**	3,00	2,00	3,00	**1,00**	2,00	3,00	3,00	3,00	**1,00**	2,00	1,50
I-T 2	user	3,00	2,00	2,50	**1,00**	3,00	2,00	**1,00**	**1,00**	**1,00**	**1,00**	**1,00**	**1,00**	2,00	2,00	2,00	2,00	3,00	2,50
	domain	3,00	**1,00**	2,00	2,00	3,00	2,50	**1,00**	2,00	1,50	**1,00**	**1,00**	**1,00**	3,00	3,00	3,00	2,00	2,00	2,00
	competitor	**1,00**	**1,00**	**1,00**	0,00	3,00	1,50	**1,00**	2,00	1,50	2,00	**1,00**	1,50	**1,00**	2,00	1,50	**1,00**	3,00	2,00
	infrastructure	**1,00**	**1,00**	**1,00**	**1,00**	3,00	2,00	**1,00**	2,00	1,50	**1,00**	**1,00**	**1,00**	2,00	3,00	2,50	**1,00**	2,00	1,50
	usp	**1,00**	**1,00**	**1,00**	2,00	2,00	2,00	**1,00**	3,00	2,00	3,00	**1,00**	2,00	3,00	2,00	2,50	3,00	3,00	3,00
	function	**1,00**	2,00	1,50	**1,00**	**1,00**	**1,00**	**1,00**	3,00	2,00	2,00	**1,00**	1,50	2,00	3,00	2,50	**1,00**	2,00	1,50
	design	2,00	**1,00**	1,50	3,00	3,00	3,00	**1,00**	2,00	1,50	2,00	**1,00**	1,50	**1,00**	2,00	1,50	**1,00**	3,00	2,00
Quality	uniqueness	2,00	**1,00**	1,50	2,00	2,00	2,00	**1,00**	3,00	2,00	**1,00**	**1,00**	**1,00**	2,00	2,00	2,00	2,00	3,00	2,50
	relevance	2,00	2,00	2,00	2,00	**1,00**	1,50	**1,00**	3,00	2,00	**1,00**	**1,00**	**1,00**	**1,00**	2,00	1,50	2,00	3,00	2,50
	clearness	3,00	**1,00**	2,00	2,00	2,00	2,00	**1,00**	3,00	2,00	**1,00**	**1,00**	**1,00**	3,00	2,00	2,50	3,00	3,00	3,00
sum		2,17	**1,60**	1,88	1,97	2,00	1,89	**1,00**	2,40	**1,70**	1,76	**1,17**	**1,47**	2,50	2,47	2,49	1,83	2,36	2,10

c = cultural efficacy; m = methodological efficacy; Ø = gross efficacy

6.6.2.6.2 Korea

6.6.2.6.2.1 Predicting efficacy

The Korean sample, also, was already characterized at length in chapter 6.5.3 (ref. Table 6.11). More than 50% of this samples variance regarding individual traits can be attributed to the first four factors constituting the Korean national profile. Factor one by and large represents the participant's intrinsic motivation, which opposed to the Chinese sample is rather biased towards independence and challenge seeking, factor two shows this sample's rejection of self-transcendence in favour of self-enhancement, factor three affirms a comparatively strong preference towards tangible compensations over enjoyment as another motivational source and factor four depicts this sample's high preference for novelty seeking and once more independence. Thus, and in conjunction with individual level facilitators and obstacles (ref. Table 6.23) one should expect the single-method **puzzle interview** to better utilize the Korean sample's cultural orientation than interviews and cultural probes due to factor two and three, and therefore excel through higher efficacies. In regard to group methods, one should expect **focus-groups** to best suit this sample's premises, anecdote circles to suit less well and inspiration card workshops to be the least appropriate methodology applied.

6.6.2.6.2.2 Analysing efficacy

As predicted, the analysis of gross method efficacies proves in regard to single-user methods puzzle interviews to be the most successful methodology applied in the Korean market. This sample's throughout high scores regarding both, cultural as well as methodological efficacy, with this method seems convincing and a clear-cut case.

In regard to group methods, though, initial expectations cannot be confirmed. Despite the high methodological efficacy of focus groups, which could be confirmed for all three national samples tested (ref. Table 6.42), this methods low cultural efficacy mitigates its gross efficacy strong enough to achieve only the second best overall result. In other words, compared to both other national samples the Korean one performed significantly worse, what in turn mitigated gross-efficacies obtained through focus groups and clearly contradicts expected results. At the same time, the combination of mediocre cultural and high methodological efficacies established for this sample in regard to anecdote circles makes this method the one with the highest gross efficacy scores.

This certainly makes a case for the relative rejection of initial expectations regarding method efficacy within this empirical study. For generally disproving the potential of predicting method applicability based on intra-cultural profiles, though, this does not seem sufficient.

Table 6.42: Gross Method Efficacy - Korea

		single									group								
		int			puz			cp			fg			ac			ins		
		c	m	Ø	c	m	Ø	c	m	Ø	c	m	Ø	c	m	Ø	c	m	Ø
	# of Ideas	2,00	2,00	2,00	**1,00**	**1,00**	**1,00**	2,00	3,00	2,50	3,00	**1,00**	2,00	2,00	2,00	2,00	3,00	3,00	3,00
I-S	experience	**1,00**	**1,00**	**1,00**	0,00	3,00	1,50	2,00	3,00	2,50	3,00	2,00	2,50	2,00	**1,00**	1,50	2,00	3,00	2,50
I-S	opinion	3,00	2,00	2,50	**1,00**	**1,00**	**1,00**	2,00	3,00	2,50	3,00	**1,00**	2,00	**1,00**	2,00	1,50	3,00	3,00	3,00
I-S	action	**1,00**	**1,00**	**1,00**	**1,00**	3,00	2,00	2,00	2,00	2,00	**1,00**	**1,00**	**1,00**	2,00	2,00	2,00	3,00	3,00	3,00
I-T 1	context	**1,00**	**1,00**	**1,00**	**1,00**	2,00	1,50	2,00	3,00	2,50	3,00	2,00	2,50	2,00	**1,00**	1,50	3,00	3,00	3,00
I-T 1	product	3,00	2,00	2,50	**1,00**	**1,00**	**1,00**	2,00	3,00	2,50	2,00	**1,00**	1,50	**1,00**	2,00	1,50	3,00	3,00	3,00
I-T 2	user	**1,00**	**1,00**	**1,00**	**1,00**	3,00	2,00	2,00	2,00	2,00	2,00	**1,00**	1,50	3,00	3,00	3,00	3,00	2,00	2,50
I-T 2	domain	**1,00**	2,00	1,50	**1,00**	**1,00**	**1,00**	2,00	3,00	2,50	2,00	2,00	2,00	**1,00**	**1,00**	**1,00**	3,00	3,00	3,00
I-T 2	competitor	2,00	**1,00**	1,50	0,00	3,00	1,50	2,00	3,00	2,50	3,00	**1,00**	2,00	2,00	2,00	2,00	3,00	3,00	3,00
I-T 2	infrastructure	3,00	**1,00**	2,00	2,00	2,00	2,00	2,00	3,00	2,50	3,00	3,00	3,00	**1,00**	2,00	1,50	2,00	**1,00**	1,50
I-T 2	usp	3,00	2,00	2,50	**1,00**	**1,00**	**1,00**	**1,00**	3,00	2,00	**1,00**	**1,00**	**1,00**	**1,00**	2,00	1,50	3,00	3,00	3,00
I-T 2	function	3,00	2,00	2,50	2,00	**1,00**	1,50	**1,00**	3,00	2,00	3,00	**1,00**	2,00	3,00	2,00	2,50	3,00	3,00	3,00
I-T 2	design	3,00	**1,00**	2,00	**1,00**	2,00	1,50	2,00	3,00	2,50	3,00	**1,00**	2,00	2,00	2,00	2,00	**1,00**	3,00	2,00
Quality	uniqueness	3,00	2,00	2,50	**1,00**	**1,00**	**1,00**	2,00	3,00	2,50	2,00	**1,00**	1,50	**1,00**	2,00	1,50	3,00	3,00	3,00
Quality	relevance	3,00	2,00	2,50	3,00	**1,00**	2,00	2,00	3,00	2,50	3,00	**1,00**	2,00	2,00	2,00	2,00	3,00	3,00	3,00
Quality	clearness	**1,00**	**1,00**	**1,00**	**1,00**	2,00	1,50	2,00	3,00	2,50	3,00	**1,00**	2,00	2,00	2,00	2,00	2,00	3,00	2,50
	sum	2,13	1,57	1,85	**1,22**	1,63	**1,37**	1,89	2,90	2,40	2,56	1,26	1,91	1,76	1,86	**1,81**	2,74	2,88	2,81

c = cultural efficacy; m = methodological efficacy; Ø = gross efficacy

6.6.2.6.3 Germany

6.6.2.6.3.1 Predicting efficacy

Equivalent to the Chinese and the Korean sample the first four intra-national factors determining the German sample's profile explain more than 50% of respective participants' cultural orientation (ref. chapter 6.5.3 and Table 6.12). In regard to this, individual traits at work can be associated to the participants' intrinsic motivation, which is mainly based on novelty and challenge seeking biased towards enjoyment and extraversion, combined with a preference of achieving things and independence while rejecting tradition and universalism values as well as to a preference for tangible compensations over new challenges. This rather diverse cultural orientation of the German sample makes the presumption of suitable methodologies quite cumbersome. While identified enjoyment, challenge and openness scores of the first and the fourth intra-cultural factor would suggest cultural probes to be an appropriate methodology for this sample, the second and third factor must be seen as rather hindering the successful application of this method due to compensational and achievement preferences, what actual experiences with the application of this method further back (ref. chapter 6.6.2.1). Hence, particularly the third intra-cultural factor identified with it's orientation towards extrinsic orientation seems to facilitate the application of puzzle interviews. Explaining merely about 8.5% of the German sample's variance, this factor alone, however does not seem strong enough to predict a predomination of puzzle interviews. In consequence, and supported by the first factors high level of the component extraversion which contributes to the sample's socializing behaviour, one should expect **interviews** to better suit this sample's cultural orientation than puzzle interviews. Regarding group methods the prediction of suitable methodologies seems a bit less ambiguous. Particularly the first two factors depict this sample's comparatively high creative potential. In combination with the fourth factor, which approves this sample's high openness to new experiences, one can expect particularly **inspiration card workshops** to be able to build on the German participants' cultural orientation.

6.6.2.6.3.2 Analysing efficacy

Regarding single-user methods, observed gross-efficacies clearly back the predicted suitability of interviews over puzzle interviews for the German case. Particularly this methods high relative cultural efficacy seems convincing as this clearly prove interviews to better work in Germany than in any other country tested.

In regard to group-methods, however, predicted efficacies cannot be confirmed as calculated gross efficacies in Table 6.43 clearly show focus groups, and not as expected inspiration card workshops, to be the method achieving the best results. The differentiated analysis of cultural and methodological efficacy of this deviation between expected and observed efficacies seems reasonable for explaining observed effects. First, the comparison of both methods relative cultural efficacy proves inspiration card workshops to score significantly higher than focus groups. In other words, when comparing the relative amount and quality of results obtained by the German sample in relation to both other national samples across focus groups and inspiration card workshops, data suggests inspiration card workshops to achieve significantly better results than focus groups. In other words, the predominance of the German sample over both other national sample can be confirmed to be significantly higher for

inspiration card workshops than for focus groups (ref. Table 6.41, Table 6.42, and Table 6.39), what in turn would back predicted relative efficacies. Further analyses of methodological efficacies prove that established low gross efficacy can by and large be attributed to methodological impacts. At this, inspiration card workshops can be confirmed to have the by far lowest methodological efficacy of all three group methods tested.

In sum, even though gross method efficacies cannot approve initially predicted suitability of inspiration card workshops, findings based on this study do not seem sufficient to categorically reject the predictive power of taken measure, as no other cultural sample was better able to achieve higher results with that method.

Table 6.43: Gross Method Efficacy - Germany

		single									group								
		int			puz			cp			fg			ac			ins		
		c	m	Σ	c	m	Σ	c	m	Σ	c	m	Σ	c	m	Σ	c	m	Σ
# of Ideas		**1,00**	2,00	1,50	3,00	**1,00**	2,00				**1,00**	**1,00**	**1,00**	**1,00**	2,00	1,50	**1,00**	3,00	2,00
I-S	experience	3,00	**1,00**	2,00	0,00	2,00	**1,00**				**1,00**	2,00	1,50	**1,00**	**1,00**	**1,00**	**1,00**	3,00	2,00
	opinion	**1,00**	2,00	1,50	3,00	**1,00**	2,00				2,00	**1,00**	1,50	2,00	3,00	2,50	**1,00**	2,00	1,50
	action	2,00	**1,00**	1,50	3,00	2,00	2,50				2,00	2,00	2,00	**1,00**	**1,00**	**1,00**	2,00	3,00	2,50
I-T 1	context	2,00	**1,00**	1,50	3,00	2,00	2,50				2,00	3,00	2,50	**1,00**	**1,00**	**1,00**	**1,00**	2,00	1,50
	product	2,00	2,00	2,00	3,00	**1,00**	2,00				**1,00**	**1,00**	**1,00**	2,00	2,00	2,00	2,00	3,00	2,50
I-T 2	user	2,00	**1,00**	1,50	3,00	2,00	2,50				3,00	3,00	3,00	**1,00**	2,00	1,50	**1,00**	**1,00**	1,00
	domain	2,00	**1,00**	1,50	3,00	2,00	2,50				3,00	3,00	3,00	2,00	**1,00**	1,50	**1,00**	2,00	1,50
	competitor	3,00	**1,00**	2,00	0,00	2,00	**1,00**				**1,00**	**1,00**	**1,00**	3,00	2,00	2,50	3,00	3,00	3,00
	infrastructure	2,00	**1,00**	1,50	3,00	2,00	2,50				2,00	**1,00**	1,50	3,00	3,00	3,00	3,00	3,00	3,00
	usp	2,00	**1,00**	1,50	3,00	2,00	2,50				2,00	**1,00**	1,50	2,00	2,00	2,00	**1,00**	3,00	2,00
	function	2,00	2,00	2,00	3,00	**1,00**	2,00				**1,00**	**1,00**	**1,00**	**1,00**	3,00	2,00	2,00	2,00	2,00
	design	**1,00**	**1,00**	**1,00**	3,00	2,00	2,50				**1,00**	**1,00**	**1,00**	3,00	2,00	2,50	**1,00**	3,00	2,00
Quality	uniqueness	**1,00**	**1,00**	**1,00**	3,00	2,00	2,50				3,00	**1,00**	2,00	3,00	2,00	2,50	**1,00**	3,00	2,00
	relevance	**1,00**	2,00	1,50	**1,00**	**1,00**	**1,00**				2,00	**1,00**	1,50	3,00	3,00	3,00	**1,00**	2,00	1,50
	clearness	2,00	**1,00**	1,50	3,00	2,00	2,50				2,00	2,00	2,00	**1,00**	**1,00**	**1,00**	**1,00**	3,00	2,00
sum		**1,71**	**1,42**	**1,56**	2,89	1,58	2,09				**1,68**	**1,50**	**1,59**	**1,74**	1,92	1,83	**1,36**	2,63	1,99

c = cultural efficacy; m = methodological efficacy; Σ = gross efficacy

6.6.2.6.4 Summary

The previews chapters addressed the question in how far established cultural profiles of this study's part I are suitable for predicting and explaining the applicability of different user-centred methodologies in culturally distinct locales. At this, based on the alignment of cultural profiles, constructed through taken personality, motivation and value measures, with identified individual level facilitators and obstacles of method application, expected efficacies were judged for each respective method and likely predominant methods for each culture identified. This predicted efficacy was then cross-checked with established cultural and methodological efficacies in order to verify assumptions where possible and to explain deviations where necessary.

In general the predictive power of established measures was higher for single user methods than for group methods. Except for the special case cultural probes, for all cultural samples gross single-user efficacies could be met. For group methods, though, no method's efficacy could be predicted correctly and necessitates further studies. At this, particularly for both Asian countries, predictive and explanatory powers of taken measures seem lower than for Germany. Despite not being sufficient for categorically rejecting the possibility and value of enhancing method applicability via the alignment of method-traits with user premises, findings suggest measures covered by the empirical study to not cover all aspects of the user's profile well enough in order to validly predict method efficacies. Hence, further research into applicable measures for developing appropriate national profiles from that seems necessary. Furthermore, findings support the initial assumption of chapter 5.2.2, that the direct methodological localization approach probably is not sufficient and needs to be supplemented by the indirect one where possible.

6.6.3 Results

In previous chapters data collected through the application of six distinct user-analysis methodologies in China, Korea and Germany was analysed in-depth in order to reveal impacts on method application that can be attributed to premises of individual participants (ref. chapter 6.6.2.2), to national culture (ref. chapter 6.6.2.3) and to distinct method traits (ref. chapter 6.6.2.4). As results for each influencing factors are already discussed at length within respective summaries at the end of each chapter, remarks regarding each component's influence will be held rather brief here and the focus will be on the overall picture.

Being an exploratory research into components influencing the applicability of user-centred activities, this study initially addressed mainly general and broad issues. Nonetheless, centring collected user-insights around different data-centres enabled the detailed and separate analysis of each research hypothesis. Revealed answers will be briefly summarized below:

RH2: *Different national samples achieve different results with the same user-analysis method applied.*

RH2 was addressed in chapter 6.6.2.3. The underlying presumption of this research question is that, due to cultural effects, one cannot expect all methods to work equally well across all national samples. Conducted analysis clearly proves methods to work particularly better, and therefore being particularly applicable, for some distinct locales than for others. This implies that some methods were better aligned with cultural premises of respective national samples than others and, as procedural as well as application effects were controlled for as good as possible, this alignment can by and large be attributed to respective method's abstract characteristics.

RH3: *Within one national sample different user-analysis methods yield different results.*

RH3 was addressed in chapter 6.6.2.4. The underlying presumption of this research question is that due to distinct method characteristics, different methods do not provide the same results within one national sample. Indeed, analysis proved two things. First, as expected, different user-centred analysis methods delivered different results and this for each national sample. Second, patterns of results achieved by different methodologies are comparatively stable across national samples. This implies

that methods for which a higher feasibility in regard to some specific research goals due to their abstract characteristics can be expected, are likely to have a higher efficacy in regard to respective goals for each national sample.

RH4: *Effects of user-analysis methods on results obtained through user-analysis activities are not equally strong as effects of national culture.*

RH4 was addressed in chapter 6.6.2.5. The underlying presumption of this research question is that the impact of abstract method characteristics, which are prefixed by respective methods applied, determines the efficacy for obtaining specific results significantly more than effects of national culture do. Established findings clearly support this hypothesis. This implies that it is more important to align abstract method traits with research goals pursued with a respective user-centred activity than with cultural effects. However, this implies also, that of different methods having the same feasibility in regard to specific research goals, those can be expected to have the highest applicability in distinct locales, whose characteristic method traits are best aligned with premises of the target culture.

RH5: *Results of user-analysis activities can be connected to personal dispositions of participating users that are culturally sensitive.*

RH5 was addressed in chapter 6.6.2.2. The underlying presumption of this research question is that insights provided by the user can be associated to his/her personal disposition, which among other things constituting his/her cultural orientation. Established correlations clearly prove the possibility of connecting individual measures taken to insights generated by respective participants. Furthermore, the analysis proved different user-centred methodologies to benefit from different patterns of individual premises. This implies that different user-centred methodologies benefit from specific personal dispositions of respective participants. In consequence this suggests the efficacy of user-centred method application to be determined by the alignment of abstract method traits with individual premises of the object.

Consequently, RH5 represents the linking bit between findings of the cultural level, which was the major research objective of part I of this study (ref. chapter 6.5) and the analysis of method application effects, which were primary research objective of this part II. Pulling all those strings together was the major objective of chapter 6.6.2.6, which addressed the last research question (RH6):

RH6: *Culturally sensitive user traits facilitate the application of certain user-analysis methods whose profiles better fit a specific cultural context and hinder the application of certain user-analysis methods whose profiles don not fit this specific context.*

The underlying presumption of this research question is that national profiles established through individual measures can be associated to individual facilitators and obstacles of method application and thus explain and predict method efficacy, which in turn affects a method's applicability. Established findings suggest that, even though taken measures and established profiles prove to add significant value for predicting and analysing single-user method efficacies, they do not seem sufficient to add the same high value in regard to group-methods. Recalling the fact, that due to time and resource constraints of this empirical study only a subset of potential user premises influencing method efficacy could be tested, the analysis of further premises not covered here, particularly

influencing the efficacy of group-methods, can be expected to improve explanatory and predictive powers of cultural profiles significantly.

7 Appraisal of the model for method localization

General research questions being answered findings of the empirical research summarized in the previous chapters shall be applied to assess the value of the approach for method localization developed in chapter 5. The ratio behind localizing user-centred methodologies, as discussed at length in chapter 4.4, is to increase method applicability through the alignment of method characteristics with premises of the user on whom respective methods are applied. The ultimate focus of the model was on the development of a sound and valid theoretical foundation on which such endeavours can build on rather than on detailed practical and procedural implementations. It just doesn't seem to make too much seems to develop detailed processes and implication-guidelines for user-centred activities and processes that are not at least rudimentary proven to be valid. Thus the primary objective of conducted empirical research was to validate at least a subset of theoretical assumptions made in regard to method localization. Figure 7.1 provides an overview of which parts of the model for method localization were covered by the empirical research (green) and which not (red).

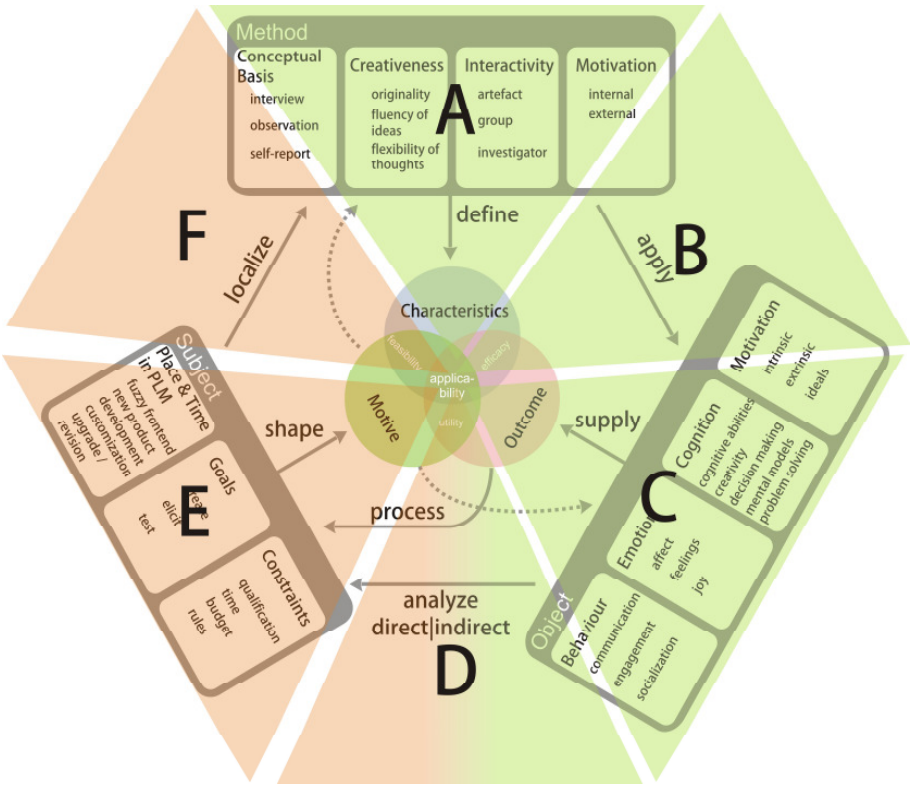


Figure 7.1: Appraisal of model of method localisation

First of all, marked as the green area A of Figure 7.1, the categorization of applied methods proved the taxonomy of user-centred methodologies as a starting-point for method internationalization a valid and valuable tool for differentiating user-centred methodologies based on abstract method traits. To judge different methods' expressions on traits that are cross-methodologically valid thus allowed comparing methods with each other which were otherwise hard to compare. This comparison was shown to

clearly benefit from the the application of multi-criteria decision methods, in this case the AHP, to facilitated the relative categorization of methods applied. In consequence the developed taxonomy should be able to add considerable value when it comes to categorizing and comparing different user-centred methodologies constituting toolboxes applied by professionals and thus significantly supporting the difficult task of picking the "right" method for achieving certain goals associated to user-centred activities. This is the first loose end that needs to be considered by practitioners to improve method applicability in cross-cultural settings.

From user-perspective, the empirical analysis proved the subset of influencing factors analysed, namely behavioural, emotional and motivational premises of the object, to be valid constructs to, first, categorize users in broader cultural profiles and, second, to connect respective premises of the object to outcomes obtained by the application of respective methods (area C of Figure 7.1). At the same time could be shown how those factors can be constructed using standard psychological inventories directly assessing the objects' motivational, personal and value-orientation premises. Even though only a few user premises influencing method outcomes could be tested within this empirical research their value for explaining situational effects induced by the method application context could be clearly proven. Practitioners should benefit from this knowledge by focusing their attention on culturally induced factors that do influence actual method application in order to understand the second lose end that needs to be tied together with the first one in order to improve method applicability in cross-cultural context – cognitive, emotional, motivational and behaviouristic premises of respective users.

How the adaptation of abstract method traits to individual, culturally induced, premises is capable of enhancing overall method applicability could also be proven by the empirical research on hand, albeit not exhaustively (area B of Figure 7.1). So could be shown how the efficacy of different methods differs across cultures due to cultural sensitive factors at play. This, however, not always straightforward and unambiguous as only a limited subset of influencing factors could be tested. Clearer insights can be expected by more in-depth analysis of specific premises affecting method application related to the relatively broad dimensions personality, motivation and value orientation measured here. Equally will the analysis of other influential factors at work, such as cognition, further enhance the predictive power regarding different methodologies efficacy in different cultural settings.

Nonetheless provide established findings valuable guidance for practitioners about how to improve method efficacy by focusing their attention on individually induced, culturally sensitive factors that affect actual method application. Method efficacy, however, is only one factor influencing method applicability as discussed at length in chapter 4.2. Outcome utility and method feasibility are at least as important. Unfortunately time and money constraints of this empirical research forbid the analysis of the whole method localization circle.

So could the two different approaches, namely the direct and the indirect one (see in chapter 5.2.2 for details) for pre-analysing user premises prior to method localization in order reveal basic user premises with which localized methodologies need to be aligned with not be tested throughout (area D of Figure 7.1). Applied psychological standard inventories to reveal motivational, personal and value-orientation premises of participants of the empirical research, however, can be understood as an exemplified application of the direct approach for pre-analysing users in cross-cultural settings. The

value of this for practitioners is to guide their attention to more specific factors constituting cultural and individual differences, what seems particularly necessary within the domain of cross-cultural user-centred product development endeavours that are prone to cultural and theoretical misconceptions as discussed in detail in chapter 2.5.3.

In how far method feasibility can be improved by localizing abstract method traits to local requirements under consideration of organizationally induced side-constraints as the place and time of method application, goals pursued with taken actions and additional constraints, like time, budget and qualification of professionals engaged, could also not be tested by the empirical analysis on hand (area F of Figure 7.1). Nonetheless, the process of method localization as introduced in chapter 5.2.3 must be understood as a high-level guideline on how to achieve exactly this – highest method feasibility by aligning abstract method traits with premises of respective users under consideration of organizationally induced side-constraints. Starting from the overall motive pursued with method application this process supports practitioners to clearly define specific goals to be achieved by method application under consideration of organizational constraints. Those goals, in turn, directly translate into 'who' will be the object to analysis and 'where' this analysis will take place as well as into 'what' are the actions to be taken and 'how' are they to be carried out. Together those questions must be understood as the starting-points from which the previously mentioned pre-analysis of respective objects and the identification of feasible method characteristics can commence. The combination of those two dimensions – user-premises and method-characteristics – facilitates the alignment of specific methods to certain local needs in terms of their methodological basis, their interactivity, creativity and motivational features. The process is once more depicted below.

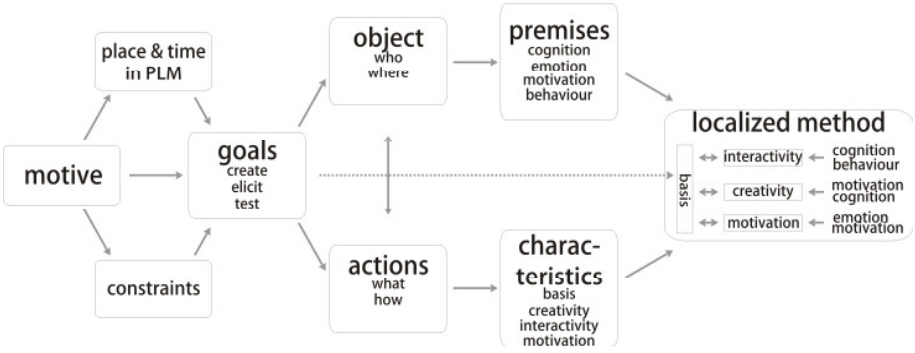


Figure 7.2: Process of method localization

In sum can be said that of the complete model of method localization only a subset of assumptions and guidelines could be tested within this empirical research. That the complete model of method localization could not be throughout analysed and validated by the empirical analysis on hand was clear from the start, however. Consequently the empirical analysis was designed in such a way to at least cover the most pressing and arguable effects related to method efficacy. Those features not tested are at least based on a sound theoretical framework on which further research can build on. Quite a lot of this follow-up research needs to be done in the field by real practitioners. They know the tricks and subtleties organizational requirements impose on motives pursued with user-centred method application, are the ones having the broadest and deepest experience with the application of different methodologies and thus must be expected to be able to judge respective abstract

characteristics the best and, last but not least, are the only ones who can really judge which results do have a high utility for satisfying respective motives pursued and which not.

8 Conclusion

After theoretical foundations, concepts and approaches have been empirically scrutinized, now is the time to conclude with a critical appraisal of this whole research. Hence, directions for future research related to the field of user-centred product development shall be discussed.

8.1 Critical Appraisal

The purpose of this study was to advance user-centred method application across different cultures. Recalling ongoing globalization tendencies and increasing competitive pressure, this field of research is highly relevant for any corporation serving different markets around the world in competitive industries. Beyond, considering the general lack of applicable theories and scientific examinations covering this field of research, this study must be understood as an important preliminary work on which in-depth future analysis can build on. Consequently, within this research several issues could not be addressed exhaustively.

Theoretically this research could not build on a sound foundation of established cross-cultural theories for user-centred product development. The appraisal of widely applied theoretical frameworks approaching the problem field from the national level in abstract constructs clearly revealed their incapability of adding value to the research on hand. Therefore, and in alignment with the idea of X-centred theoretical foundations for user-centred product development research (ref. chapter 2.5.3) this work had to utilize Hacker's action regulation theory [Hac05] as a type 1 macro-theory as well as Vygostky's first and Leont'ev's second generation activity theory [Leo81] as type 2 macro-theories for approaching the cross-cultural application of user-centred methodologies. All three theories proved to add significant value to this research.

First, Vygostky's activity theory provided the general theoretical frame for identifying and analysing components at work within user-centred product development activities. It could be shown how the researcher's motive pursued, together with abstract characteristics of utilized methodologies and the activitie's outcome determine the applicability of any user-centred methodology. Second, Leont'ev's activity systems facilitated the theoretically analysis of how the interplay between researcher, user, methodology, organization, community and rules reciprocally affect each other and in their combination influence method applicability. This, in turn facilitated the identification of specific situational factors at work influencing researcher and user on individual level and therefore influencing the application of user-centred methodologies across cultures. Third, Hacker's action regulation theory provided the foundation of organizing identified influencing factors at work in the planning and execution of user-centred activities according to forces they exert on user-centred method application. This finally enabled the development of a model for method localization.

Despite the theoretical advancements applied theories provide for the problem-field they must be understood as being merely sufficient for this preliminary work. Advanced type 1 and type 2 micro-

theories applicable for the system of user-centred product development seem necessary to be developed for studying the different components characteristics, their interplay and emerging phenomena in-depth.

From a **practical perspective**, this research adds significant value to the advancement of the situational application of user-centred product development methodologies. At this, foundations laid for method internationalization on which the comprehensive model for method localization and its procedural embodiment build on represent a dualism that clearly enables the organized and theoretically founded alignment of abstract method characteristic with the local users' premises.

Remarks on method internationalization provide a comprehensive taxonomy of user-centred method traits enabling the categorization and abstraction of any user-centred methodologies. Supported by multi-criteria decision-making tools, this taxonomy can be applied by practitioners to simply and straight-forwardly develop a map representing the landscape of user-centred methodologies they commonly apply and are familiar with based on abstract method characteristics.

The value of the introduced model of method localization for the advancement of user-centred methodologies is that it provides a comprehensive understanding of components situationally influencing the applicability of user-centred methodologies. This in turn enables practitioners to clearly focus on issues that are influencing the application of user-centred methodologies and therefore provides the basis on which a situational adaptation of abstract method traits can build on. Hence, procedural implications of method localization discussed provide straight-forward guidance for actual method localization endeavours.

What is still missing, though, is a substantial list of tools applicable for method internationalization and localization. Even though various tools expected to significantly facilitate respective activities were referred to as extensive as possible within this research, a comprehensive tool-box is nonetheless missing.

Objective of this research was not only to derive a comprehensive approach for method localization from abstract theoretical consideration, but to further back findings as well as to provide new insights based on practical work and **empirical research**. Consequently, one major part of this study was devoted to an empirical verification of established findings.

A considerable amount of user-studies could be undertaken in three distinct cultures. Findings clearly prove culture to significantly influence method efficacy and therefore method applicability. Even though only a small subset of factors influencing cross-cultural method application could be tested, the empirical study clearly proves the value of culture sensitive individual measures constituting the users' personal disposition at work when engaging in user-centred activities for analysing, predicting and explaining the applicability of distinct user-centred methodologies. Next to cultural efficacy, the analysis of methodological efficacy proved to significantly determine method application. At this, findings suggest methodological effects influencing the feasibility of a user-centred method to affect method applicability stronger than cultural effects influencing efficacy.

Despite the broad spectrum of insights gained from this empirical research it can only be understood as some kind of door-opener. Further in-depth insights can be expected by the empirical analysis of

further factors identified influencing the applicability of user-centred methodologies. Next to additional factors constituting the users' cultural orientation and personal disposition, particularly impacts of method feasibility and utility as well as further situational factors affecting method applicability deserve more attention in future.

Another drawback of the empirical research is due to the fact that, for time and money constraints, all methods were carried out by students and not by professional usability or user-experience experts. Even though all students were master-level and had at least some kind of formal training in related fields this clearly lowers collected insights' efficacy. For the meta-analysis on hand, however, this effect seems less of a problem as it would be for real product development. As long as all students carrying out respective methods had a more or less equal skill and experience level, a meta-analysis should provide valid results.

8.2 Future Research

This research is a first endeavour into a comprehensive advancement of cross-cultural method application. Significantly more work remains for establishing a throughout understanding of the problem field. Initial discussions, however, suggest that prior to this the development of a sound fundamental theoretical framework for cross-cultural user-centred product development seems reasonable. To prevent reinventing the wheel is seems worthwhile to first scrutinize promising theories of related fields, such as bounded rationality as a theoretical foundation explaining decision making under environmental and cognitive constraints, distributed cognition for analysing implications of contextual structures on cognitive processes as well as cultural and indigenous theories for revealing interrelations of the individual with its environment.

Considering the field of cross-cultural user-centred method application this study could only provide the board foundations on which follow-up research needs to build on. For this purpose, the in-depth analysis of the interplay between identified components constituting feasibility, efficacy and utility of method application and respective factors seems a promising direction of future research. Particularly the examination of the share separate components and factors have on determining a method's applicability in distinct cultural contexts can be expected to advance method applicability significantly.

As already addressed, particularly for practitioners, the further development of an abstract taxonomy of user-centred methodologies can be expected to significantly enhance the quality of selecting and applying appropriate methodologies for user-engagement. This also comprises the further development of an appropriate tool-box for method internationalization and localization.

Hence, significantly work remains to be done for a flawless integration of methodologies and procedures of cross-cultural and non-cross-cultural user-centred product development endeavours with the overall PLM and innovation management. Consequently, this work could only pave a tiny part towards the advancement of user-centred product development in general and cross-cultural user-centred method application in particular. Much work remains to be done.

9 References

[Abe00] Abercrombie, N./Hill, S./Turner, B. S. (2000): Social structure. In: Abercrombie, N./Hill, S./Turner, B. S. (Ed.): The Penguin dictionary of sociology, London: Penguin, p. 326–327.

[Abe89] Abelson, R. P./Prentice, D. A. (1989): Beliefs as possessions. A functional perspective. In: Pratkanis, A. R./Breckler, S. J./Greenwald, A. G. (Ed.): Attitutde structure and function, Mahwah, New Jersey [et al.]: Lawrence Erlbaum Associates, Publishers, p. 349-390.

[All04] Allik, J./McCrae, R. R. (2004): Towards a geography of personality traits. In: Journal of cross-cultural psychology, Vol. 35, No. 1, p. 13-28.

[Ama94] Amabile, T. M./Hill, K. G./Hennessey, B. A./Tighe, E. M. (1994): The Work Preference Inventory. Assessing intrinsic and extrinsic motivational orientations. In: Journal of personality and social psychology, Vol. 66, No. 5, p. 950-967.

[Ama99] Amabile, T. M. (1999): How to kill creativity. Harvard Business Review on Breakthrough Thinking, Boston: Harvard Business School Press, p. 1-28.

[Arn05] Arnold, V. (2005): Product Lifecycle Management beherrschen. ein Anwenderhandbuch für den Mittelstand. Berlin [u.a.]: Springer.

[Arr84] Arrow, K. J. (1984): Collected Papers of Kenneth J. Arrow, Volume 3, Individual Choice Under Certainty and Uncertainty. New York: Harvard University Press.

[Ayk05] Aykin, N. (2005): Usability and internationalization of information technology. Mahwah, NJ [et al.]: Erlbaum:.

[Bag00] Bagozzi, R. P./Baumgartner, H./Pieters, R./Zeelenberg, M. (2000): The role of emotions in goal-directed behaviour. In: Ratenshwar, S./Mick, D. G./Huffman, C. (Ed.): The why of consumption. Contemporary perspectives on consumer motives, goals, and desires, New York: Taylor & Francis Group, p. 36-58.

[Bag99] Bagozzi, R. P./Gopinath, M./Nyer, P. U. (1999): The Role of Emotions in Marketing. In: Journal of the academy of marketing science, Vol. 27, No. 2, p. 184-206.

[Ban92] Bannon, L. (1992): From human factors to human actors: the role of psychology and human-computer interaction studies in system design. In: Greenbaum, J./Kyng, M. (Ed.): Design at work: cooperative design of computer systems, Mahwah, New Jersey [et al.]: Lawrence Erlbaum Associates, Publishers, p. 25-44.

[Bar00] Barnard, P./May, J./Duke, D./Duce, D. (2000): Systems, interactions, and macrotheory. In: ACM Trans. Comput.-Hum. Interact., Vol. 7, No. 2, p. 222-262.

[Bar02] Barnard, P./May, J./Duke, D./Duce, D. (2002): Macrotheory for Systems of Interactors. In: Carroll, J. M. (Ed.): Human-computer interaction in the new millenium, New York: ACM Press, p. 31-52.

[Ben01] Benyon, D./Crerar, A./Wilkinson, S. (2001): Individual differences and inclusiv design. In: Stephanidis, C. (Ed.): User interfaces for all. Concepts, methods, and tools, Mahwah, New Jersey [et al.]: Lawrence Erlbaum Associates, Publishers, p. 21-43.

[Ber03] Bergeron, B. (2003): Essentials of Knowledge Management. Hoboken: John Wiley & Sons, Inc.

[Beu00] Beu, A./Honold, P./Yuan, X. (2000): How to Build Up an Infrastructure for Intercultural Usability Engineering. In: International Journal of Human-Computer Interaction, Vol. 12, No. 3&4, p. 347-358.

[Bey98] Beyer, H./Holtzblatt, K. (1998): Contextual design. Defining customer-centered systems. Amsterdam [u.a.]: Morgan Kaufmann.

[Bha04] Bhagwhat, A. A./Leong, F. T. L./Hardin, E. E. (2004): Factor structure of the self-construal revisited. In: Journal of cross-cultural psychology, Vol. 35, No. 3, p. 327-345.

[Bjö04] Björkmann, H. (2004): Design dialogue groups as a source of innovation. Factors behind group creativity. In: Creativity and Innovation Management, Vol. 13, No. 2, p. 97-108.

[Ble04] Bleicher, K. (2004): Das Konzept integriertes Management. Visionen - Missionen - Programme. Frankfurt/Main [u.a.]: Campus-Verl.

[Ble05] Blecker, T. (2005): Mass customization: concepts - tools - realization. proceedings of the International Mass Customization Meeting 2005 ; June 2 - 3, 2005, Klagenfurt/Austria. Berlin: GITO.

[Blo03] Blomberg, J./Burrell, M./Guest, G. (2003): An ethnographic approach to design. In: Jacko, J. A./Sears, A. (Ed.): The Human-computer Interaction Handbook : Fundamentals, Evolving Technologies, and Emerging Applications, Mahwah, New Jersey [et al.]: Lawrence Erlbaum Associates, Publishers, p. 964-984.

[Bon02] Bonner, J. V. H./Porter, J. M. (2002): Envisioning future needs. From pragmatics to pleasure. In: Green, W. S./Jordan, P. W. (Ed.): Pleasure with products: Beyond Usability, New York: Taylor & Francis Group, p. 151-158.

[Bon04] Bond, M. H./Leung, K./et al., (2004): Culture-Level Dimensions of Social Axioms and Their Correlates across 41 Cultures. In: Journal of cross-cultural psychology, Vol. 35, No. 5, p. 548-570.

[Bor02] Bortz, J./Döring, N. (2002): Forschungsmethoden und Evaluation. für Human- und Sozialwissenschaftler ; mit 70 Tabellen. Berlin [u.a.]: Springer.

[Brü04] Brühl, R. (2004): Learning and management accounting - a behavioral perspective. Management Control, European School of Management Berlin, Berlin:.

[Böd07] Bödcher, A. (2007): Methodische Nutzungskontext-Analyse als Grundlage eines strukturierten USEWARE-Engineering-Prozesses. Dissertation im Fachbereich Maschinenbau und Verfahrenstechnik, Technische Universität Kaiserslautern, Kaiserslautern.

[CMM06] CMMI Product Team (2006): CMMI for Development, Version 1.2. Improving processes for better products. Carnegie Mellon University, Pittsburg, PA: Software Engineering Institute, p. 560.

[Cal04a] Callahan, S. (2004a): How to use stories to size up a situation. Why traditional interviews and surveys are insufficient for understanding what is really going on in your organization. p. 1-5.

[Call04b] Callahan, S. (2004b): Tellin it like it is. Getting workers to tell anecdotes about how they work and who they work with can dig a lot deeper than regular interviews and surveys. In: HR Monthly, No. Dec 04 - Jan 05, p. 42-44.

[Car72] Carroll, J. B. (1972): Stalking the wayward factors. In: Contemporary Psychology, Vol. 17, p. 321-324.

[Car93] Carroll, J. B. (1993): Human cognitive abilities. a survey of factor-analytic studies. Cambridge [u.a.]: Cambridge Univ. Press.

[Cha05] Chavan, A. L. (2005): Another culture, another method. In: Proceedings of the 11th International Conference on Human-Computer Interaction (HCII 2005), CD-ROM, 22-27 July 2005, Las Vegas, Nevada, USA, Mahwah, New Jersey [et al.]: Lawrence Erlbaum Associates, Publishers,.

[Che03] Cheskin; fitch: Worldwide (2003): Fast, focused and fertile: the innovation evolution.

[Cho99] Choi, I./Nisbett, R. E./Norenzayan, A. (1999): Causal attribution across cultures: variation and universality. In: Psychological Bulletin, Vol. 125, No. 1, p. 47-63.

[Cle05] Clemmensen, T./Goyal, S. (2005): Cross-cultural usability testing. The relationship between evaluator and test user. Department of Informatics, Copenhagen Business School, Copenhagen:.

[Com07] Committee on Human-System Design Support for Changing Technology; Committee on Human Factors; National Research Council; Pew,/Committee on Human Factors; National Research Council; Pew,/National Research Council; Pew,/Pew, R. W./Mavor, A. S. (2007): Human-System Integration in the System Development Process: A New Look. Washington D.C.: National Academies Press.

[Cos92] Costa, P. T./McCrea, R. R. (1992): Revised NEO Personality Inventory (NEO PI-R) and NEO Five-Factor Inventory (NEO-FFI). Odessa, FL: Psychological Assessment Resources.

[Cou05] Courage, C./Baxter, K. (2005): Understanding your users. a practical guide to user requirements ; methods, tools, and techniques. Amsterdam [u.a.]: Morgan Kaufmann.

[Cra02] Crano, W. D./Brewer, M. B. (2002): Principles and methods of social research. Mahwah, NJ [u.a.]: Lawrence Erlbaum Assoc.

[Cre02] Creusen, M./Snelders, D. (2002): Product appearance and consumer pleasure. In: Green, W. S./Jordan, P. W. (Ed.): Pleasure with products: Beyond Usability, New York: Taylor & Francis Group, p. 69-75.

[Cro05] Cropley, D./Cropley, A. (2005): Engineering creativity. A systems concept of functional creativity. In: Kaufman, J. C./Baer, J. (Ed.): Mahwah, New Jersey [et al.]: Lawrence Erlbaum Associates, Publishers, p. 169-185.

[Csi90] Csikszentmihalyi, M. (1990): Flow. The psychology of optimal experience. New York u.a: Harper [and] Row.

[DeA02] DeAngeli, A./Lynch, P./Johnson, G. I. (2002): Pleasure versus efficiency in user interfaces. Towards an involvement framework. In: Green, W. S./Jordan, P. W. (Ed.): Pleasure with products: Beyond Usability, New York: Taylor & Francis Group, p. 97-111.

[DeB92] DeBono, E. (1992): Serious creativity. using the power of lateral thinking to create new ideas. New York, N.Y: HarperBusiness.

[Dia04] Diaper, D./Stanton, N. A. (2004): The handbook of task analysis for human-computer interaction. Mahwah, NJ [u.a.]: Lawrence Erlbaum.

[Dil96] Dillon, A./Watson, C. (1996): User analysis in HCI. The historical lesson from individual differences research. In: International Journal of Human-Computer Studies, Vol. 45, No. 6, p. 619-637.

[Dil98] Dillon, A. (1998): Cultural analysis and what designers need to know - a case of sometimes too much, sometimes too little, and always too late. Why ethnography needs to show its relevance. In: Journal of Computer Documentation, Vol. 22, No. 1, p. 13-17.

[Dra05] Dray, S./Siegel, D. (2005): "Sunday in Shanghai, Monday in Madrid?!" Key issues and decisions in planning international user studies. In: Aykin, N. (Ed.): Usability and internationalization of information technology, Mahwah, New Jersey [et al.]: Lawrence Erlbaum Associates, Publishers, p. 189-212.

[Dru05] Drucker, P. F. (2005): The essential Drucker. the best of sixty years of Peter DruckerÂs essential writings on management. New York, NY: CollinsBusiness.

[Dru54] Drucker, P. F. (1954): The practice of management. New York [u.a.]: Harper und Row.

[Dum03] Dumas, J. S. (2003): User-based evaluations. In: Jacko, J. A./Sears, A. (Ed.): The human-computer interaction handbook. Fundamentals, evolving technologies and emerging applications, Mahwah, New Jersey [et al.]: Lawrence Erlbaum Associates, Publishers, p. 1093-1117.

[Dun05] Dunbar, G. (2005): Evaluating research methods in psychology. a case study approach. Malden, Mass. [u.a.]: Blackwell Publ.

[Dut94] Dutke, S. (1994): Mentale Modelle: Konstrukte des Wissens und Verstehens. kognitionspsychologische Grundlagen für die Software-Ergonomie. Göttingen [u.a.]: Verl. für Angewandte Psychologie.

[Ear99] Earthy, J. (1999): Usability Maturity Model: Processes. Lloyd's Register and the European Commission.

[Eng67] England, G. W. (1967): Personal Value Systems of American Managers. In: The Academy of Management Journal, Vol. 10, No. 1, p. 53-68.

[Eng87] Engström, Y. (1987): Learning by expanding: An activity-theoretical approach to developmental research. Helsinki: Orienta-Konsultit.

[Fer95] Fernandes, T. (1995): Global interface design. A guide to designing international user interfaces. Boston [et al.]: AP Professional.

[Fig05] Figueira, J./Greco, S./Ehrgott, M. (2005): Multiple Criteria Decision Analysis: State of the Art Surveys. Boston, Dordrecht, London: Springer Verlag.

[Fin92] Finke, R. A./Ward, T. B./Smith, S. M. (1992): Creative cognition. theory, research, and applications. Cambridge, Mass. [u.a.]: MIT Press.

[Fis02] Fiske, A. P. (2002): Using Individualism and Collectivism to Compare Cultures—A Critique of the Validity and Measurement of the Constructs: Comment on Oyserman et al. (2002). In: Psychological Bulletin, Vol. 128, No. 1, p. 78-88.

[Fis04] Fisher, B./Fels, S./MacLean, K./Munzer, T./Rensink, R. (2004): Seeing, hearing, and touching. Putting it all together. Full-day course at SIGGRAPH2004, 08-12 August 2004, Los Angeles:.

[Fis93] Fiske, A. P. (1993): Structures of social life. the four elementary forms of human relations ; communal sharing, authority ranking, equality matching, market pricing ; with a new epilogue. New York [u.a.]: Free Press [u.a.].

[Fri05] Friedman, T. L. (2005): The world is flat. a brief history of the globalized world in the twenty-first century. London: Penguin, Allen Lane.

[Gal96] Del Galdo, E. M./Nielsen, J. (1996): International user interfaces. Hoboken: John Wiley & Sons, Inc.

[Gav99] Gaver, B./Dunne, T./Pacenti, E. (1999): Design: Cultural probes. In: interactions, Vol. 6, No. 1, p. 21-29.

[Gem92] Gemünden, H. G./Heydebreck, P./Herden, R. (1992): Technological interweavement. A means of achieving innovation success. In: R&D Management, Vol. 29, No. 4, p. 359-376.

[Ghe07] Ghemawat, P. (2007): Die Welt ist nicht flach. In: Handelsblatt, 19.11.2007.

[Gig01a] Gigerenzer, G./Selten, R. (2001a): Bounded rationality. the adaptive toolbox. Cambridge, Mass. [u.a.]: MIT Press.

[Gig01b] Gigerenzer, G. (2001b): The Adaptive Toolbox. In: Gigerenzer, G./Selten, R. (Ed.): Dahlem Workshop on Bounded Rationality: the Adaptive Toolbox, Cambridge, Mass. [u.a.]: MIT Press,.

[Gig99] Gigerenzer, G./Todd, P. M. (1999): Simple heuristics that make us smart. New York, NY [u.a.]: Oxford Univ. Press.

[Gil04] Gilad, B. (2004): Early warning. using competitive intelligence to anticipate market shifts, control risk, and create powerful strategies. New York, NY [u.a.]: AMACOM.

[Gill04] Gillham, R. (2004): Towards a Strategic Model of Design Support for Localization. In: Designing for Global Markets 6, IWIPS 2004, Sixth International Workshop on Internationalisation of Products and Systems, Culture, Trust, and Design Innovation, Vancouver, BC, Canada, 8-10 July 2004, p. 103-114.

[Gou05] Gould, E. W. (2005): Synthesizing the literature on cultural values. In: Aykin, N. (Ed.): Usability and internationalization of information technology, Mahwah, New Jersey [et al.]: Lawrence Erlbaum Associates, Publishers, p. 79-121.

[Gra97] Graziano, W. G./Eisenberg, N. (1997): Agreeableness. A dimension of personality. In: Hogan, R./Briggs, S./Johnson, J. (Ed.): Handbook of personality psychology, San Diego [et al.]: Academic Press, p. ???

[Gre97] Greenfield, P. M. (1997): Culture as process: Empirical methods for cultural psychology. In: Berry, J. W./Poortinga, Y. H./Pandey, J. (Ed.): Handbook of cross-cultural psychology, Boston: Allyn & Bacon, p. 301-346.

[Gru90] Grudin, J. (1990): The computer reaches out: the historical continuity of interface design. CHI '90: Proceedings of the SIGCHI conference on Human factors in computing systems, New York, NY, USA: ACM, p. 261-268.

[Gud03] Gudykunst, W. B./Lee, C. M. (2003): Assessing the validity of self construal scales. A response to Levine et al. In: Human Communication Research, Vol. 29, No. 2, p. 253-274.

[Gui67] Guilford, J. P. (1967): The nature of human intelligence. New York [u.a.]. McGraw-Hill:.

[Hac05] Hacker, W. (2005): Allgemeine Arbeitspsychologie. psychische Regulation von Wissens-, Denk- und körperlicher Arbeit. Bern: Huber.

[Hal03] Hall, P./Lawson, C./Minocha, S. (2003): Design patterns as a guide to the cultural localisation of software. Fifth International Workshop on Internationalisation of Products and Services, IWIPS 2003, 17-19 July, Berlin, Gernany, p. 79-88.

[Hal06] Halskov, K./Dalsgård, P. (2006): Inspiration card workshops. Proceedings of the 6th ACM conference on Designing Interactive systems DIS '06, University Park, PA, USA, June 26-28, New York: ACM Press, p. 2-11.

[Hal77] Hall, E. T. (1977): Beyond culture. Garden City, N.Y: Anchor Pr. / Doubleday.

[Has03] Hassenzahl, M. (2003): The thing and I: Understanding the relationship between user and product. In: Blythe, M. A./Monk, A. F./Overbeeke, K./Wright, P. C. (Ed.): Funology: From usability to enjoyment, Dordrecht [et al.]: Kluwer Academic Publishers, p. 31-42.

[Hei00] Heine, S. J./Takata, T./Lehman, D. R. (2000): Beyond Self-Presentation: Evidence for Self-Criticism among Japanese. In: Psychological Bulletin, Vol. 26, No. 1, p. 71-78.

[Hei01] Heine, S. J./Kitayama, S./Lehman, D. R./Takata, T./Ide, E./Leung, C./Matsumoto, H. (2001): Divergent consequences of success and failure in Japan and North America: An investigation of self-improving motivations and malleable selves. In: Journal of personality and social psychology, Vol. 81, No. 4, p. 599-615.

[Hei02] Heine, S. J./Lehman, D. R./Peng, K./Greenholtz, J. (2002): What's wrong with cross-cultural comparison of subjective likert scales?: The reference-group effect. In: Journal of personality and social psychology, Vol. 82, No. 6, p. 903-918.

[Hem04] Hemlin, S. (2004): Creative knowledge environments. the influences on creativity in research and innovation. Cheltenham [u.a.]: Elgar.

[Her01] Hertzum, M./Jacobsen, N. E. (2001): The evaluator effect: A chilling fact about usability evaluation methods. In: International Journal of Human-Computer Interaction, Vol. 13, No. 4, p. 761-778.

[Her96] Herman, L. (1996): Towards effective usability evaluation in Asia. Cross-cultural differences. 6th Australian Conference on Computer-Human Interaction (OZCHI), p. 135-136.

[Heu02] Heuer, J. (2002): Mentale Modelle komplexer Prozesse. Möglichkeiten zur Qualifikationsförderung und -erhaltung in Prozessleitwarten durch Simulation und Hypertext-Handbüchern. Fachbereich 10 Berufsbildungs-, Sozial- und Rechtswissenschaften, Universität Kassel, Kassel.

[Hof80] Hofstede, G. (1980): Culture's consequences. international differences in work-related values. Beverly Hills, Calif. [u.a.]: Sage Publ.

[Hof95] Hoft, N. L. (1995): International technical communication. How to export information about high technology; creating a management strategy, performing and international user analysis, writing for translation, designing online documentation. Hoboken: John Wiley & Sons, Inc.

[Hof96] Hoft, N. L. (1996): Developing a cultural model. In: del Galdo, E./Nielsen, J. (Ed.): International user interfaces, Hoboken: John Wiley & Sons, Inc., p. 41-73.

[Hof97] Hofstede, G. H. (1997): Cultures and organizations. Software of the mind ; [intercultural cooperation and its importance for survival]. New York [u.a.]: McGraw-Hill.

[Hol00] Hollan, J./Hutchins, E./Kirsh, D. (2000): Distributed cognition: toward a new foundation for human-computer interaction research. In: ACM Trans. Comput.-Hum. Interact., Vol. 7, No. 2, p. 174-196.

[Hol03] Holzblatt, K. (2003): Contextual design. In: Jacko, J. A./Sears, A. (Ed.): The human-computer interaction handbook. Fundamentals, evolving technologies and emerging applications, Mahwah, New Jersey [et al.]: Lawrence Erlbaum Associates, Publishers, p. 941-963.

[Hol05] Holtzblatt, K./Wendell, J. B./Wood, S. (2005): Rapid contextual design. a how-to guide to key techniques for user-centered design. Amsterdam [u.a.]: Morgan Kaufmann.

[Hor99] Horenstein, M. N. (1999): Design concepts for engineers. Upper Saddle River, NJ: Prentice-Hall.

[Hut01] Hutchins, E. (2001): Distributed Cognition. In: Smelser, N. J./Baltes, P. B. (Ed.): International encyclopedia of the social und behavioral sciences, Amsterdam [u.a.]: Elsevier, p. 2068-2072.

[Iko03] Ikonen, V./Suihkonen, R./Jalonen, K./Laitakari, I./Salovaara, A. (2003): Developing personal navigation products for professionals - methodological perspective. Proceedings of the IWIPS 2003, Berlin, 17-19 July, p. 115-126.

[Ing98] Inglehart, R./BasaÄnez, M./MenÂendez Moreno, A. (1998): Human values and beliefs. a cross-cultural sourcebook ; political, religious, sexual, and economic norms in 43 societies ; findings from the 1990 - 1993 World Values Survey. Ann Arbor: Univ. of Michigan Press.

[Jag04] Jagne, J./Smith, S. G./Duncker, E./Curzon, P. (2004): Cross-cultural interface design strategy. Technical Report, Interaction Design Centre, Middlesex University, London, p. 1-8.

[Jay06] Jayaswal, B./Patton, P. C. (2006): Design for Trustworthy Software. Tools, Techniques, and Methodology of Developing Robust Software. New York: Prentice-Hall.

[Joh05] Johnson, T./Kulesa, P./Young, I. C./Isr, L./Shavitt, S. (2005): The relation between culture and response styles. Evidence from 19 countries. In: Journal of cross-cultural psychology,.

[Jor00] Jordan, P. W. (2000): Designing pleasurable products. An introduction to the new human factors. London [u.a.]: Taylor und Francis [u.a.].

[Kag06] Kagitcibasi, C./Bond, M. H./Smith, P. B. (2006b): Understanding Social Psychology Across Cultures: Living and Working in a Changing World. Newbury Park [u.a.]: Sage.

[Kah00] Kahneman, D. (2000): Choices, values, and frames. Cambridge, UK [u.a.]: Cambridge Univ. Press.

[Kam06] Kamppuri, M./Tedre, M./Tukiainen, M. (2006): Towards the sixth level in interface design. Understanding culture. CHI-SA 2006, Cape Town: ACM SIGCHI South Africa Chapter, p. 69-74.

[Kan06] Kanstrup, A. M./Christiansen, E. (2006): Selecting and evoking innovators: combining democracy and creativity. NordiCHI '06: Proceedings of the 4th Nordic conference on Human-computer interaction, New York, NY, USA: ACM, p. 321-330.

[Kap95] Kaptelinin, V./Kuutti, K./Bannon, L. (1995): Activity theory: Basic concepts and applications. Lecture Notes in Computer Science, Berlin [u.a.]: Springer, p. 189 - 201.

[Kap01] Kaptelinin, V. (2001): Activity theory. Implications for human-computer interaction. In: Nardi, B. A. (Ed.): Context and consciousness, Cambridge, Mass. [u.a.]: MIT Press, p. 53-59.

[Kar00] Kardes, F. R./Cronley, M. L. (2000): The role of approach/avoidance asymmetries in motivated belief formation and change. In: Ratneshwar, D. G. M./Huffman, C. (Ed.): The why of consumption. Contemporary perspectives on consumer motives, goals and desires, New York: Taylor & Francis Group, p. 81-97.

[Kas01] Kashima, Y. (2001): Culture and social cognition. Towards a social psychology of cultural dynamics. In: Matsumoto, D. (Ed.): The Handbook of Culture and Psychology, Oxford [at al.]: Oxford University Press, p. 325-360.

[Kau06] Kaufman, J. C. (2006): The international handbook of creativity. New York, NY [u.a.]: Cambridge Univ. Press, p. XII, 526 S.

[Kau07] Kausch, C. (2007): A risk-benefit perspective on early customer integration. Dissertation, Universität, St. Gallen.

[Kee02] Keeney, R. L./Raiffa, H./Hammond, J. S. (2001): Smart Choices. A Practical Guide to Making Better Decisions. New York: Broadway Books.

[Kie03] Kieras, D. (2003): Model-based evaluation. In: Jacko, J. A./Sears, A. (Ed.): The human-computer interaction handbook. Fundamentals, evolving technologies and emerging applications, Mahwah, New Jersey [et al.]: Lawrence Erlbaum Associates, Publishers, p. 1139-1151.

[Kim06] Kim, U./Park, Y. (2006a): The scientific foundation of indigenous and cultural psychology. In: Kim, U./Yang, K./Hwang, K. (Ed.): Indigenous and cultual psychology. Understanding people in context, Berlin [u.a.]: Springer, p. 27-48.

[Kim06] Kim, U./Yang, K./Hwang, K. (2006b): Indigenous and cultual psychology. Understanding people in context. Berlin [u.a.]: Springer.

[Kim93] Kim, U./Berry, J. W. (1993a): Indigenous psychologies. Research and experience in cultural context. Newbury Park [u.a.]: Sage.

[Kim93] Kim, U./Berry, J. W. (1993b): Introduction. In: Kim, U./Berry, J. W. (Ed.): Indigenous psychology. Research and expereince in cultural context, Newbury Park [u.a.]: Sage, p. 1-29.

[Kle01] Klein, G. (2001): The Fiction of Optimization. In: Gigerenzer, G./Selten, R. (Ed.): Dahlem Workshop on Bounded Rationality: the Adaptive Toolbox, Cambridge, Mass. [u.a.]: MIT Press, p. 103-121.

[Koe01] Koen, P. A./Ajamian, G./Burkhart, R./Clamen, A./Davidson, J./D'Amore, R./Elkins, C./Herald, K./Incorvia, M./Johnson, A./Karol, R./Seibert, R./Slavejkov, A./Wagner, K. (2001): Providing clarity and a common language to the "fuzzy front end". In: Research Technology Management, p. 46-55.

[Koe02] Koen, P. A./Ajamian, G. M./Boyce, S./Clamen, A./Fisher, E./Fountoulakis, S./Johnson, A./Puri, P./Seibert, R. (2002): Fuzzy Front End. Effective Methods, Tools, and Techniques. In: Belliveau, P./Griffin, A./Somermeyer, S. (Ed.): The PDMA ToolBook for New Product Development, Hoboken: John Wiley & Sons, Inc., p. 5-35.

[Kri02] Kristensson, P./Magnusson, P. R./Matthing, J. (2002): Users as hidden resource for creativity. Findings from an experimental study on user involvement. In: Creativity and Innovation Management, Vol. 11, No. 1, p. 55-61.

[Kro52] Kroeber, A. L./Kluckhohn, C./Untereiner, W./Meyer, A. G. (1952): Culture. A critical review of concepts and definitions. Cambridge, Mass: Peabody Museums of American Archaeology and ethnology.

[Kum90] Kumar, K./Bjorn-Andersen, N. (1990): A cross-cultural comparison of IS designer values. In: Commun. ACM, Vol. 33, No. 5, p. 528-538.

[Kuu01] Kuutti, K. (2001): Activity theory as a potential framework for human-computer interaction research. In: Nardi, B. A. (Ed.): Context and consciousness, Cambridge, Mass. [u.a.]: MIT Press, p. 17-44.

[Lan06] Landry, B. M./Guzdial, M. (2006): iTell: supporting retrospective storytelling with digital photos. DIS '06: Proceedings of the 6th conference on Designing Interactive systems, New York, NY, USA: ACM, p. 160-168.

[Law08] Law, E./Roto, V./Vermeeren, A. P. O. S./Kort, J./Hassenzahl, M. (2008): Towards a shared definition of user experience. CHI '08: CHI '08 extended abstracts on Human factors in computing systems, New York, NY, USA: ACM, p. 2395-2398.

[Lee07] Lee, J./Lee, K. (2007): Cultural differences and design methods for user experience research. Dutch and Korean participants compared. HCII 2007, 21 July - 27 July 2007, Beijing:.

[Leo81] Leont'ev, A. (1981): Problems of the development of the mind. Moscow: Progress Publishers.

[Lev03] Levine, T. R./Bresnahan, M. J./Park, H./Lapinski, M. K./Lee, T. S./Lee, D. W. (2003): The (in)validity of self-construal scales revisited. In: Human Communication Research, Vol. 29, No. 2, p. 291-308.

[Lev05] Levine, T. R./Bresnahan, M. J./Shearman, S. M./Lee, S. Y. (2005): A Multimethod Multitrait Validity Assessment of Self-Construal in Japan, Korea and the United States. In: Human Communication Research, Vol. 31, No. 1, p. 33-59.

[Lev83] Levitt, T. (1983): The globalization of markets. Harvard Business Review.

[Lin04] Lidwell, W./Holden, K./Butler, J. (2004): Design. Die 100 Prinzipien für erfolgreiche Gestaltung. München: Stiebner.

[Lom03] Lommel, A. (2003): The localization industry primer. SMP Marketing and the LISA.

[Luc00] Luce, M. F./Bettman, J. R./Payne, J. W. (2000): Minimizing negative emotion as a decision goal. Investigating emotional trade-off difficulty. In: Ratneshwar, S./Mick, D. G./Huffman, C. (Ed.): The why of consumption. Contemporary perspectives on consumer motives, goals and desires, New York: Taylor & Francis Group, p. 59-80.

[Mac05] MacGregor, E./Hsieh, Y./Kruchten, P. (2005): Cultural patterns in software process mishaps: incidents in global projects. HSSE '05: Proceedings of the 2005 workshop on Human and social factors of software engineering, New York, NY, USA: ACM, p. 1-5.

[Mai85] Maidique, M. A./Zirger, B. J. (1985): The new product learning cycle. In: Research Policy, Vol. 14, No. 6, p. 299-313.

[Mar03] Marcus, A. (2003): Global and intercultural user-interface design. In: Jacko, J. A./Sears, A. (Ed.): The Human-computer Interaction Handbook : Fundamentals, Evolving Technologies, and Emerging Applications, Mahwah, New Jersey [et al.]: Lawrence Erlbaum Associates, Publishers, p. 441-463.

[Mar04] Martin, B. R./Allwood, C. M./Hemlin, S. (2004): Conclusion: How to stimulate creative knowledge environments. In: Hemlin, S./Allwood, C. M./Martin, B. R. (Ed.): Creative knowledge environments: the influences on creativity in research and innovation, p. 193-220.

[Mar05] Marcus, A. (2005b): User interface design and culture. In: Aykin, N. (Ed.): Usability and internationalization of information technology, Mahwah, New Jersey [et al.]: Lawrence Erlbaum Associates, Publishers, p. 51-78. (b)

[Mar91] Markus, H. R./Kitayama, S. (1991): Culture and the self. Implications for cognition, emotion, and motivation. In: Psychological Review, Vol. 98, No. 2, p. 224-253.

[Mas03] Masten, D./Plowman, T. (2003): Digital ethnography. The next wave in understanding the consumer experience. In: Design Management Journal, Vol. 14, No. 2, p. 75-81.

[May03] Mayhew, D. J. (2003): Requirements specification within the usability engineering lifecycle. In: Jacko, J. A./Sears, A. (Ed.): The Human-computer Interaction Handbook : Fundamentals, Evolving Technologies, and Emerging Applications, Mahwah, New Jersey [et al.]: Lawrence Erlbaum Associates, Publishers, p. 913-921.

[May99] Mayhew, D. J. (1999): The usability engineering lifecycle. New York: Morgan Kaufmann.

[McC02] McCrae, R. R. (2002): Cross-cultural research on the five-factor model of personality. In: Lonner, W. J./Dinnel, D. L./Hayes, S. A./Sattler, D. N. (Ed.): Online Readings in Psychology and Culture, Bellingham, WA: Center for Cross-Cultural Research, p. Unit 6, Chapter 1.

[McC87] McCrae, R. R. (1987): Creativity, divergent thinking, and openness to experience. In: Journal of personality and social psychology, Vol. 52, No. 6, p. 1258-1265.

[Mil05] Aykin, N./Milewski, A. P. (2005): Practical Issues and Guidelines for International Information Display. In: Aykin, N. (Ed.): Usability and internationalization of information technology, Mahwah, New Jersey [et al.]: Lawrence Erlbaum Associates, Publishers, p. 21-50.

[Mis01] Mishra, R. C. (2001): Cognition across Culture. In: Matsumoto, D. (Ed.): The Handbook of Culture and Psychology, Oxford [at al.]: Oxford University Press, p. 119-135.

[Moc01] Mockler, R. J./Dologite, D. G. (2002): Strategically-focused enterprise knowledge management. In: White, D. (Ed.): Knowledge Mapping and Management, London [et al.]: IRM Press, p. 14-22.

[Mon04] Moneta, G. B. (2004): The flow model of intrinsic motivation in Chinese. Cultural and personal moderators. In: Journal of Happiness Studies, No. 5, p. 181-217.

[Mor97] Morgan, D. L. (1997): Focus groups as qualitative research. Vol. 16, p. VIII, 80 S ;.

[Mul03] Muller, M. J. (2003): Participatory design: The third space in HCI. In: Jacko, J. A./Sears, A. (Ed.): The Human-computer Interaction Handbook : Fundamentals, Evolving Technologies, and Emerging Applications, Mahwah, New Jersey [et al.]: Lawrence Erlbaum Associates, Publishers, p. 1051-1068.

[Nar01] Nardi, B. A. (2001d): Context and consciousness. activity theory and human-computer interaction. Cambridge, Mass. [u.a.]: MIT Press.

[Ng01] Ng, A. K. (2001): Why creators are dogmatic people, "nice" people are not creative and creative people are not "nice". In: International Journal of Group Tensions, Vol. 30, No. 4, p. 293-324.

[Nie92] Nielsen, J. (1992): Finding usability problems through heuristic evaluation. CHI '92: Proceedings of the SIGCHI conference on Human factors in computing systems, New York, NY, USA: ACM, p. 373-380.

[Nie93] Nielsen, J. (1993): Usability Engineering. San Diego [et al.]: Academic Press.

[Nie94] Nielsen, J. (1994): Guerrillia HCI. Using discount usability engineering to penetrate the intimidation barrier. In: Bias, R. G./Mayhew, D. J. (Ed.): Cost-justifying usability, Boston [u.a.]: Academic Press, p. 245-272.

[Nis03] Nisbett, R. E. (2003): The geography of thought. how Asians and Westerners think differently - and why. New York [u.a.]: Free Press.

[Niu06] Niu, W./Zhang, J. X./Yang, Y. (2006): Does culture always matter? For creativity, yes, for deductive reasoning, no!. In: Kaufman, J. C. (Ed.): Creativity and Reason in Cognitive Development, Cambridge: Cambridge University Press, p. 282-295.

[Nor90] Norman, D. A. (1990): The design of everyday things. New York [u.a.]: Doubleday.

[Ove03] Overbeeke, K./Djajadinigrat, T./Hummels, C./Wensveen, S./Frens, J. (2003): Let's make things engaging. In: Blythe, M. A./Monk, A. F./Overbeeke, K./Wright, P. C. (Ed.): Funology: From usability to enjoyment, Dordrecht [et al.]: Kluwer Academic Publishers, p. 7-17.

[Oys02] Oyserman, D./Coon, H. M./Kemmelmeier, M. (2002): Rethinking individualism and collectivism. Evaluation of theoretical assumptions and meta-analysis. In: Psychological Bulletin, Vol. 128, No. 1, p. 3-72.

[Pii05] Piirto, J. (2005): The creative process in poets. In: Kaufman, J. C./Baer, J. (Ed.): Mahwah, New Jersey [et al.]: Lawrence Erlbaum Associates, Publishers, p. 1-22.

[Pin93] Pine, B. J. (1993): Mass customization. the new frontier in business competition. Boston, Mass: Harvard Business School Press.

[Pra03a] Prahalad, C. K./Hamel, G. (2003a): The Core Competence of the Corporation. Cambridge: Harvard Business School Publishing.

[Pra03b] Prahalad, C. K./Lieberthal, K. (2003b): The end of corporate imperialism. In: Collis, D. J./Montgomery, C. A./Goold, M./Campbell, A./Prahalad, C. K./Lieberthal, K./Hart, S. L. (Ed.): Harvard Business Review on Corporate Strategy, Boston, Mass: Harvard Business School Press, p. 95-120.

[Pre99] Preim, B. (1999): Entwicklung interaktiver Systeme. Grundlagen, Fallbeispiele und innovative Anwendungsfelder ; mit 20 Tabellen. Berlin [u.a.]: Springer.

[Rap01] Rapporteur, J. H./Albers, W./Boyd, R./Gigerenzer, G./McCabe, K. A./Ockenfels, A./Young, P. H. (2001): Group Report: What is the role of culture in bounded rationality? In: Gigerenzer, G./Selten, R. (Ed.): Bounded rationality: The adaptive toolbox, Cambridge, Mass.: London MIT Press, p. 343-359.

[Rat03] Ratner, C./Hui, L. (2003): Theoretical and methodological problems in cross-cultural psychology. In: Journal for the Theory of Social Behavior, Vol. 33, p. 67-94.

[Red03] Redish, J./Wixon, D. (2003): Task Analysis. In: Jacko, J. A./Sears, A. (Ed.): The Human-computer Interaction Handbook : Fundamentals, Evolving Technologies, and Emerging Applications, Mahwah, New Jersey [et al.]: Lawrence Erlbaum Associates, Publishers, p. 922-940.

[Rit02] Ritter, F. E./Baxter, G. D./Jones, G./Young, R. M. (2002): User interface evaluation. How cognitive models can help. In: Carroll, J. M. (Ed.): Human-computer interaction in the new millenium, New York: ACM Press, p. 125-147.

[Rob05] Robins, R. W. (2005): The nature of personality. Genes, Culture, and National Character. In: Science, Vol. 310, No. 5745, p. 62-63.

[Rog81] Rogoff, B. (1981): Schooling and the development of cognitive skills. In: Triandis, H. C./Heron, A. (Ed.): Handbook of cross-cultural psychology, Boston: Allyn & Bacon, p. 233-294.

[Ros91] Ross. Lee; Nisbett,/Nisbett, R. E. (1991): The person and the situation. Perspectives of social psychology. New York: McGraw-Hill.

[Ros98] Rosenberg, E. L. (1998): Introduction: The study of spontaneous facial expression in psychology. In: Ekman, P./Rosenberg, E. L. (Ed.): What the face reveals: Basic and applied studies of spontaneous expression using the facial action coding system (FACS), p. 3-19.

[Rum95] Rummler, G. A./Brache, A. P. (1995): Improving performance. how to manage the white space on the organization chart. San Francisco: Jossey-Bass.

[Rös02] Röse, K. (2002): Methodik zur Gestaltung interkultureller Mensch-Maschine-Systeme in der Produktionstechnik. Faculty for Engineering, Technische Universität Kaiserslautern, Kaiserslautern, Germany.

[Rös04] Röse, K. (2004): The development of culture-oriented human machine systems. Specification, analysis and integration of relevant intercultural variables. In: Kaplan, M. (Ed.): Cultural Ergonomics. Advances in human performance and cognitive engineering research, Oxford [et al.]: Elsevier Ltd., p. 61-103.

[Rös06] Röse, K./Ziegeler, D. (2006): Mehrwert und Qualität durch prozessbegleitende Evaluation. In: Automatisierungstechnische Praxis, Vol. 03/2006, p. 62-67.

[Saa96] Saaty, T. L. (1996): Multicriteria decision making. the analytic hierarchy process ; planning, priority setting, resource allocation. Pittsburgh, Pa: RWS Publ.

[Sal97] Salgado, J. F. (1992): The five factor model of personality and job performance in the European community. In: Journal of applied psychology, Vol. 82, No. 1, p. 30-43.

[San06] Sanders, E. B. N. (2006): Design research in 2006. In: Design Research Quarterly, Vol. 1, No. 1, p. 1-8.

[Sch01] Schliemann, A. D./Carraher, D. W. (2001): Everyday cognition. Where culture, psychology and education come together. In: Matsumoto, D. (Ed.): The handbook of culture and psychology, Oxford [at al.]: Oxford University Press, p. 137-150.

[Sch03] Schwartz, S. H./Bardi, A. (2003): Values and Behavior: Strength and Structure of Relations. In: Personality and Social Psychology Bulletin, Vol. 29, No. 10, p. 1207-1220.

[Sch06a] Schwartz, S. H. (2006a): A theory of cultural value orientations. A cross-cultural sourcebook ; political, religious, sexual, and economic norms in 43 societies ; findings from the 1990 - 1993 World Values Survey. In: Comparative Sociology, Vol. 5, No. 2-3, p. 137-182.

[Sch06b] Schwartz, S. H. (2006c): Basic human values: An overview. The Hebrew University of Jerusalem.

[Schw06] Schweizer, T. S. (2006b): The psychology of novelty-seeking, creativity and innovation. Neurocognitive aspects within a work-psychological perspective. In: Creativity and Innovation Management, Vol. 15, No. 2, p. 164-172.

[Sch07] Schmitt, D. P./Allik, J./McCrae, R. R./Benet-Martinez, V. (2007): The geographic distribution of the Big Five personality traits. Patterns and profiles of human self-description across 56 nations. In: Journal of cross-cultural psychology, Vol. 38, No. 2, p. 173-212.

[Sch92] Schwartz, S. H. (1992): Universals in the content and structure of values. Theory and empirical tests in 20 countries. In: Zanna, M. (Ed.): Advances in experiemntal social psychology, San Diego [et al.]: Academic Press, p. 1-65.

[Sch93] Schuler, D./Namioka, A. (1993): Participatory design. principles and practices. Hillsdale, NJ [u.a.]: Erlbaum:.

[Sch95] Schwartz, S. H./Sagiv, L. (1995): Identifying Culture-Specifics in the Content and Structure of Values. In: Journal of cross-cultural psychology, Vol. 26, No. 1, p. 92-116.

[Sei06] Seiwert, M./Bergermann, M./Pecher, U. (2006): Es werde Licht. In: WirtschaftsWoche, No. 40, p. 77-90.

[Sen06] Senge, P. M. (2006): The fifth discipline. the art and practice of the learning organization. New York, N.Y. ;London: Currency Doubleday.

[Sha85] Shaw, B. F. (1985): The Role of the Interaction between the User and the Manufacturer in Medical Equipment Innovation. Vol. 15, No. 4, p. 283–292.

[She31] Shewhart, W. A. (1931): Economic control of quality of manufactured product. New York [u.a.]: van Nostrand.

[Sim62] Simon, H. A. (1962): The architecture of complexity. In: Proceedings of the American Philosophical Society, Vol. 106, No. 6, p. 467-482.

[Sin94] Singelis, T. M. (1994): The measurement of independent and interdependent self-construals. In: Personality and Social Psychology Bulletin, Vol. 20, No. 5, p. 580-591.

[Sin95] Singelis, T. M./Triandis, H. C./Bhawuk, D. P. S./Gelfand, M. J. (1995): Horizontal and vertical dimensions of individualism and collectivism. Theoretical and measurement refinement. In: Cross-Cultural Research, Vol. 29, No. 3, p. 240-275.

[Sta05] Stark, J. (2005): Product lifecycle management. 21st century paradigm for product realisation. London [u.a.]: Springer.

[Ste02] Sternberg, R. J./Niu,. W. (2002): Contemporary studies on the concept of creativity: the east and the west. In: The journal of creative behaviour, Vol. 36, No. 4, p. 269-288.

[Ste91] Stewart, E. C./Bennett, M. (1991): American cultural patterns. a cross-cultural perspective. Yarmouth, Me: Intercultural Press.

[Suc87] Suchman, L. A. (1987): Plans and situated actions. the problem of human-machine communication. Cambridge: Cambridge Univ. Pr.

[Sum76] Summers, I./White, M. D. E. (1976): Creativity Techniques: Toward Improvement of the Decision Process. In: The Academy of Management Review, Vol. 1, No. 2, p. 99-107.

[Syd04] Sydenham, P. H. (2004): Systems approach to engineering design. Boston, Mass. [u.a]: Artech House.

[Säd98] Säde, S./Keinonen, T./Soosalu, M. (1998): Puzzle Interview. Visual support for user involvement. Working Paper, University of Art and Design Helsinki UIAH, F2, Helsinki: p. 22-29.

[Tal06] Talke, K./Salomo, S./Mensel, N. (2006): A competence-based model of initiatives for innovations. In: Creativity and Innovation Management, Vol. 15, No. 4, p. 373-384.

[Tap06] Tapscott, D./Williams, A. D. (2006): Wikinomics. how mass collaboration changes everything. New York, NY [et al.]: B&T.

[Tay02] Taylor, K./Bontoft, M./Flyte, M. G. (2002): Using video ethnography to inform and inspire user-centred design. In: Green, W. S./Jordan, P. W. (Ed.): Pleasure with products: Beyond Usability, New York: Taylor & Francis Group, p. 175-187.

[Tay96] Taylor, H. A./Tversky, B. (1996): Perspective in spatial descriptions. In: Journal of memory and language, Vol. 35, p. 371-391.

[Tha05] Thagard, P. (2005): Mind. introduction to cognitive science. Cambridge, Mass: MIT Press.

[Tho02] Thomke, S./Von Hippel, E. (2002): Customers as Innovators: A New Way to Create Value. Cambridge: Harvard Business Publishing.

[Thu38] Thurstone, L. L. (1938): Primary mental abilities. Chicago, Ill: Univ. of Chicago Press.

[Tom78] Tomaszewski, T. (1978): Tätigkeit und Bewusstsein. Beiträge zur Einführung in die polnische Tätigkeitspsychologie. Weinheim, Basel: Beltz.

[Tor66] Torrance, E. P. (1966): The torrance test of creative thinking. Norms-technical documentation. Princeton: Presonnel Press.

[Tri01] Triandis, H. C. (2001): Individualism and Collectivism. Past, present future. In: Matsumoto, D. R. (Ed.): The handbook of culture and psychology, Oxford [at al.]: Oxford University Press, p. 35-50.

[Tri95] Triandis, H. C. (1995): Individualism and Collectivism. Boulder: Westview Press.

[Tri98] Triandis, H. C./Gelfand, M. J. (1998): Converging measurement of horizontal and vertical individualism and collectivism. In: Journal of personality and social psychology, Vol. 74, No. 1, p. 118-128.

[Tro98] Trompenaars, F./Hampden-Turner, C. (1998): Riding the waves of culture. understanding cultural diversity in business. London: Nicholas Brealey.

[Tsa06] Tsai, J. L./Knutson, B./Fung, H. H. (2006): Culture in affect valuation. In: Journal of personality and social psychology, Vol. 90, No. 2, p. 288-307.

[Van88] VanGundy, A. B. (1988): Techniques of structured problem solving. New York: Van Nostrand Reinhold.

[Vat06] Vatrapu, R./Pérez-Quinones, M. A. (2006): Culture and usability evaluation. The effects of culture in structured interviews. In: Journal of Usability Studies, Vol. 1, No. 4, p. 156-170.

[Vau04] Vaucelle, C./Davenport, G. (2004): A system to compose movies for cross-cultural storytelling. Textable movies. In: Göbler et al. (Ed.): TIDES2004, LNCS 3105, Berlin [u.a.]: Springer, p. 126-131.

[Vee03] van der Veer, C. C./Melguizo, M. d. C. P. (2003): Mental models. In: Jacko, J. A./Sears, A. (Ed.): The human-computer interaction handbook. Fundamentals, evolving technologies and emerging applications, Mahwah, New Jersey [et al.]: Lawrence Erlbaum Associates, Publishers, p. 52-80.

[Vic92] Victor, D. A. (1992): International business communication. New York, NY: HarperCollins.

[Vis07] Visser, F. S./Lugt, R. v. d./Stappers, P. J. (2007): Sharing User Experiences in the Product Innovation Process: Participatory Design Needs Participatory Communication. In: Creativity and Innovation Management, Vol. 16, No. 1, p. 35-45.

[Vuu01] Vuuren, W. v./Halman, J. I. M. (2001): Platform-driven development of product families. Linking theory with practice. The Future of Innovation Studies, 20-23 September 2001, Eindhoven University of Technology, Netherlands: p. 1-16.

[Vyg96] Vygotsky, L. S. (1986): Thought and language. Cambridge, Mass. [u.a.]: MIT Press.

[Wal26] Wallas, G. (1926): The art of thought. London: Harcourt.

[Wan02] Wang, J. X. (2002): What Every Engineer Should Know About Decision Making Under Uncertainty (What Every Engineer Should Know). New York: Marcel Dekker, Inc.

[War06] Warr, A./O'Neill, E. (2006): The effect of group composition on divergent thinking in an interaction design activity. DIS '06: Proceedings of the 6th conference on Designing Interactive systems, New York, NY, USA: ACM, p. 122-131.

[Wea48] Weaver, W. (1948): Science and complexity. In: American Scientist, Vol. 36, No. 536,.

[Wec05] Wecht, C. H. (2005): Frühe aktive Kundenintegration in den Innovationsprozess. Universität St. Gallen, Hochschule für Wirtschafts-, Rechts- und Sozialwissenschaften,.

[Wei01] Weinberg, G. M. (2001): An introduction to general systems thinking. Gerald M. Weinberg. New York: Dorset House.

[Wol06] Wolf, T. V./Rode, J. A./Sussman, J./Kellogg, W. A. (2006): Dispelling 'design' as the black art of CHI. CHI '06: Proceedings of the SIGCHI conference on Human Factors in computing systems, New York, NY, USA: ACM, p. 521-530.

[Wom91] Womack, J. P./Jones, D. T./Roos, D. (1991): The machine that changed the world. The story of lean production. New York, NY: Harper Perennial.

[Yeo01] Yeo, A. (2001): Global-software development lifecycle. An exploratory study. Proceedings of the SIGCHI conference on Human factors in computing systems, Seattle, Washington, United States, 31 March - 5 April 2001, New York: ACM Press, p. 104 - 111.

[Yos03] Yoshikawa, H. (2003): Modelling humans in human-computer interaction. In: Jacko, J. A./Sears, A. (Ed.): The human-computer interaction handbook. Fundamentals, evolving technologies and emerging applications, Mahwah, New Jersey [et al.]: Lawrence Erlbaum Associates, Publishers, p. 118-146.

[Züh05] Zühlke, D./Bödcher, A./Oortmann, H. (2005): Internationale Nutzerbefragung als Grundlage für weltweiten Markterfolg. In: Automatisierungstechnische Praxis, Vol. 47, No. 5, p. 46-50.

Norms

[ISO13407] ISO 13407 (1999): Human-centred design processes for interactive systems. Berlin: Beuth.

[ISO9241] ISO 9241-11 (1999): Anforderungen an die Gebrauchstauglichkeit. Leitsätze = Guidance on usability = Lignes directrices concernant l'utilité. Berlin: Beuth.

Diploma Thesis and Student Assignments

[Bra06a] Braun, B. (2006a): Einbeziehung kognitiver Fähigkeiten bei der Ausgestaltung des Risikowirtschaftsprozesses. Diplomarbeit, Lehrstuhl für Unternehmensrechung und Controlling, Technische Universität Kaiserslautern, Kaiserslautern.

[Bra06b] Braun, B. (2006b): Localisation of a Driver Information System for the Korean Market. Requirements Analysis of the Korean User and the Implementation of these Results into the Construction of a Localized Infotainment System (for Harman-Becker). Studienarbeit, Maschinenbau und Verfahrenstechnik, Technische Universität Kaiserslautern, Kaiserslautern.

Websites

[Cle06] Clemmensen, T. (2006): Cultural Usability. Cultural models in psychological Usability Evaluation Methods (UEMs). URL: http://ir.lib.cbs.dk/paper/ISBN/x656517610 (last reviewed: 07 July 2009).

[Mer08] Merriam-Webster's Online Dictionary (2008): Innovation. URL: http://www.merriam-webster.com/dictionary/innovation (last reviewed: 07 July 2009).

[Mil08] Miller, G. A./Fellbaum, C./Tengi, R./Wakefield, P./Langone, H./Haskell, B. R. (2008): Princeton WordNet. A lexical database for English language. URL: http://wordnetweb.princeton.edu/perl/webwn (last reviewed: 07 July 2009).

[OEC08] OECD (2008): OECD Broadband Portal. URL: http://www.oecd.org/sti/ict/broadband (last reviewed: 07 July 2009).

[PlaBC] Plato (360 B.C.): Theaetetus - translated by Benjamin Jowett. URL: http://classics.mit.edu//Plato/theatu.html (last reviewed: 07 July 2009).

[UPAnn] Usability Professionals' Association (nn): What is user-centered design? URL: http://www.usabilityprofessionals.org/usability_resources/about_usability/what_is_ucd.html (last reviewed: 07 July 2009).

[Wik08] Wikipedia (2008a): Complex System. URL: http://en.wikipedia.org/wiki/Complex_system (last reviewed: 07 July 2009).

[Wik08] Wikipedia (2008b): Enculturation. URL: http://en.wikipedia.org/wiki/Enculturation (last reviewed: 07 July 2009).

[Wik08] Wikipedia (2008c): Agent. URL: http://en.wikipedia.org/wiki/Agent (last reviewed: 07 July 2009).

[Wik08] Wikipedia (2008d): SMART (project management). URL: http://en.wikipedia.org/wiki/SMART_%28project_management%29 (last reviewed: 07 July 2009).

10 Tables and Figures

Tables

Figues

11 Appendix

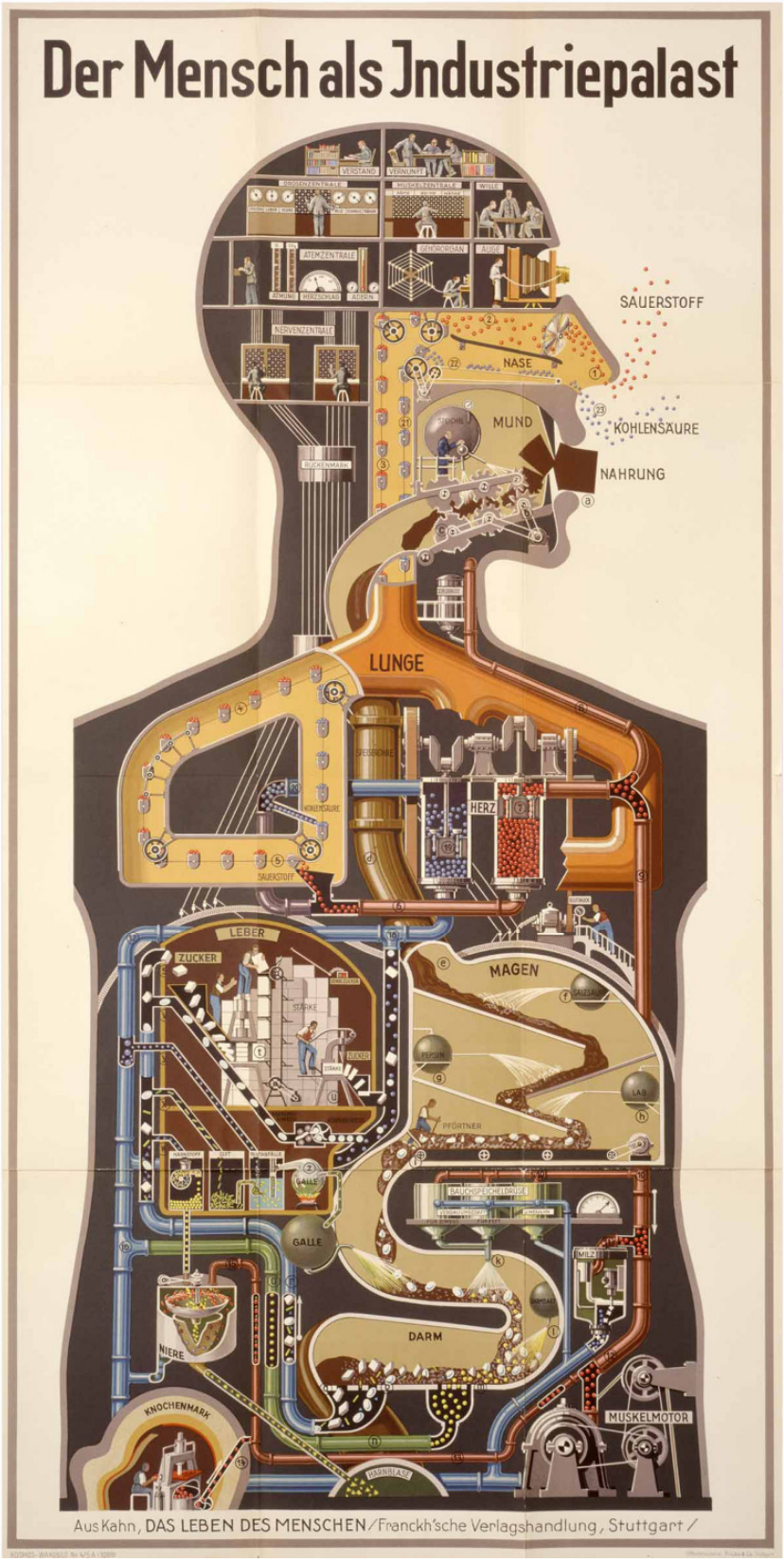
11.1 Appendix Content

11.2 Appendix Tables and Figures

Tables

Figues

11.3 Appendix A



11.4 Appendix B

11.4.1 Questionnaire

A) **You**r Profile

1) General Information

Gender ☐ female ☐ male

I perceive myself as an…

Consultant	Academic	Practitioner	Manager	
☐	☐	☐	☐	☐

2) Personal Experience

a) **Areas of** Experience (studies, consulting, teaching, research, employment)

years of experience	< 3		3-5		6-10		> 10	
academic/practical	academic	practical	academic	practical	academic	practical	academic	practical
☐ Human Factors	☐	☐	☐	☐	☐	☐	☐	☐
☐ Psychology	☐	☐	☐	☐	☐	☐	☐	☐
☐ Comp. Science	☐	☐	☐	☐	☐	☐	☐	☐
☐ Engineering	☐	☐	☐	☐	☐	☐	☐	☐
☐ (Mult.) Design	☐	☐	☐	☐	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	☐	☐	☐

b) **Process** Experience

☐ U/T Analysis	☐	☐	☐	☐	☐	☐	☐	☐
☐ Conceptualisation	☐	☐	☐	☐	☐	☐	☐	☐
☐ Test./Evaluation	☐	☐	☐	☐	☐	☐	☐	☐
☐ Design	☐	☐	☐	☐	☐	☐	☐	☐
☐ Implementation	☐	☐	☐	☐	☐	☐	☐	☐

3) Country Experience

country	area of experience				
	U./T. Analysis	Conceptualization	Testing/ Evaluation	Design	Implementation
☐ Asia					
	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐
☐ North America					
	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐
☐ South America					
	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐
☐ Europe					
	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐

PLEASE READ: The following questions refer to two countries of your choice. The main objective of this study is to gather first insights into the user-centred product development process of Korea and China. So, your input regarding those countries is highly appreciated. If you do not have any experience in Korea res. China your input regarding two countries of your choice is highly appreciated, also. Please type in your countried here:

Country 1: (Korea, if possible; if not home-country)

Country 2: (China, if possible; if not country of choice)

then actualise

B) The **User-Centered Development Process**

	strongly agree					strongly disagree
1) The **idea** of user-centeredness has **not** yet **reached** the country	☐	☐	☐	☐	☐	☐
2) A user-centered development **process** has **not** been **established** yet	☐	☐	☐	☐	☐	☐
3) The user-centered development **process differs** from the UELC (Mayhew)	☐	☐	☐	☐	☐	☐
5) Compared to the Western archetype **more hierarchical levels** are involved	☐	☐	☐	☐	☐	☐
Communication						
6) Process-**intern communication** has to bridge many **hierarchical levels**	☐	☐	☐	☐	☐	☐
7) This causes communication-**problems** at the interfaces	☐	☐	☐	☐	☐	☐
8) Process-**extern communication** happens through **multiple channels** (as opposed to one singular channel with one person in charge)	☐	☐	☐	☐	☐	☐
9) **Person in charge** of the whole project resident on **higher hierarchical level** than usability-experts	☐	☐	☐	☐	☐	☐
10) **Direct communication** with person in charge generally **not possible**	☐	☐	☐	☐	☐	☐
User-Recruitment						
11) **User recruitment** more **difficult** then in the West	☐	☐	☐	☐	☐	☐
12) User recruitment mainly in "**bring your friends and**	☐	☐	☐	☐	☐	☐

	User/ Task Analysis	Concept-ualization	Testing/ Evaluation	Design	Implemen-tation
family"-fashion	☐	☐	☐	☐	☐
Analysis					
13) **Low user involvement** in User/Task-Analysis (broader utilization of user-free methods (e.g. observations, expert-interviews, information-analysis))	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐
14) **Analysis** rather **activity-driven** (evaluation of tasks, contexts, tools, etc.)	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐
15) **Analysis** rather **cognition-driven** (evaluation of comprehension, information-distribution and –processing, etc.)	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐
Conceptualization					
16) **Conceptualization** rather **object-oriented** (main focus on system parts and their attributes)	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐
17) **Conceptualization** rather **relation-oriented** (main focus on system part relations)	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐
18) **Conceptualization** can be described as rather **creativity-driven** (innovative, borderless, organized chaos)	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐
19) **Conceptualization** can be described as rather **norm/guideline-driven** (style-guides, traditional, constraint)	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐
Evaluation					
4) **Evaluation** accompanies each step of the process	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐
20) **Analytical Evaluation** Methods (e.g. GOMS, Cognitive Walkthrough) prevail	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐
21) **Heuristic Evaluation** Methods (e.g. expert reviews, Guidelines) prevail	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐
22) Users **enjoy participating** in the development-process	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐
23) **Users feel pressured** from participating in the development process	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐
24) The prevailing **process model** can be best described as	☐ linear	☐ cyclic	☐ v-model	☐	
	☐ linear	☐ cyclic	☐ v-model	☐	

25) In which steps of the development process the **largest differences** to western approaches can be observed

26) Which step of the development process is considered as the **most important** one

C) Experience with **Usability Methods**

1) Experience with selected Usability Methods

	highly applicable					not applicable	n. a
a) Card Sorting	☐	☐	☐	☐	☐	☐	☐
b) Depth Interview	☐	☐	☐	☐	☐	☐	☐
c) Expert Interview	☐	☐	☐	☐	☐	☐	☐
d) Expert Review	☐	☐	☐	☐	☐	☐	☐
e) Field Testing	☐	☐	☐	☐	☐	☐	☐
f) Group Discussion	☐	☐	☐	☐	☐	☐	☐
g) Observation	☐	☐	☐	☐	☐	☐	☐
h) Online-Questionnaire	☐	☐	☐	☐	☐	☐	☐
i) Out of the Box-Test	☐	☐	☐	☐	☐	☐	☐
j) Paper Prototyping	☐	☐	☐	☐	☐	☐	☐
k) Participatory Design	☐	☐	☐	☐	☐	☐	☐
l) Remote Testing	☐	☐	☐	☐	☐	☐	☐

m) Scenario Testing	☐	☐	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐	☐	☐
n) Think-Aloud Testing	☐	☐	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐	☐	☐
o) Use Cases	☐	☐	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐	☐	☐
p) User Experience-Testing	☐	☐	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐	☐	☐
q)	☐	☐	☐	☐	☐	☐	☐

2) Your Top Three

a) Your Top Five **analysis-methods** for user-oriented cross-cultural product development	(1)	(2)	(3)
	(1)	(2)	(3)
b) Your Top Five **evaluation-methods** for user-oriented cross-cultural product development	(1)	(2)	(3)
	(1)	(2)	(3)
c) Your Top Five **reasons for failure** in cross-cultural product development projects	(1)	(2)	(3)
	(1)	(2)	(3)
d) Your Top Five **advices for being prepared** for cross-cultural product development projects	(1)	(2)	(3)
	(1)	(2)	(3)
e) Your Top Five **traits of users/testees** in res. in	(1)	(2)	(3)
	(1)	(2)	(3)

3) Individual methods

a) **Individual-System** interaction	**strongly agree**						**strongly disagree**
i) The **interaction-style** can be defined as rather **cautious** and **shy**	☐	☐	☐	☐	☐	☐	If **not cautious and shy**, then:
	☐	☐	☐	☐	☐	☐	If **not cautious and shy**, then:
ii) Interaction is driven with the **aim of success**	☐	☐	☐	☐	☐	☐	If **not success**, then:
	☐	☐	☐	☐	☐	☐	If **not success**, then:
iii) **'Failed'** interaction is considered as a **shame**	☐	☐	☐	☐	☐	☐	
	☐	☐	☐	☐	☐	☐	
iv) User has **difficulties speaking out aloud** what s/he is	☐	☐	☐	☐	☐	☐	

thinking

v) Individual enjoys **'playing around' with the system** to discover its functions

b) **Individual-Observer/Moderator** interaction — strongly agree … strongly disagree

i) Individuals feel more comfortable when **observer** is from the **same nationality**

ii) The individual tries to **impress/satisfy** the observer

iii) **Extreme findings** are rather **harmonized** by the individual

iv) Individual seems to have significant **difficulties communicating** their **thoughts** in a structured and **organized** manner

4) Group methods

a) **Group-Intern** interaction — strongly agree … strongly disagree

i) **Disagreements** within the group are **openly discussed**

ii) In case of a disagreement a **middle way is pursued** instead of favoring one alternative over the other

iii) **Fun and joy** in group-work seems to be more essential to achieve valuable results than in the west

iv) **Better results** are achieved when all members of the group are from the **same gender**

v) **Better results** are achieved when all members of the group are from the **same hierarchical level**

vi) **Power** is **evenly distributed** within the group

vii) **Hierarchy determines power**-distribution

If **not hierarchy**, then:

If **not hierarchy**, then:

b) **Group-System** interaction — strongly agree … strongly disagree

i) **One** outstanding **individual** is mainly **interacting** with the system, the other refrain from interaction

ii) **Skill** determines who is interacting with the system

						If **not skill**, then:
	☐	☐	☐	☐	☐	☐
						If **not skill**, then:
iii) The **interaction-style** can be defined as rather **cautious** and **shy**	☐	☐	☐	☐	☐	☐
						If **not cautious and shy**, then:
	☐	☐	☐	☐	☐	☐
						If **not cautious and shy**, then:
iv) The group enjoys **'playing around' with the system** to discover its functions	☐	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐	☐
v) **Time constraints** significantly reduce successful interaction	☐	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐	☐
						If **not success**, then:
vi) Interaction is driven with the **aim of success**	☐	☐	☐	☐	☐	☐
						If **not success**, then:
	☐	☐	☐	☐	☐	☐
vii) **'Failed'** interaction is considered as a **shame**	☐	☐	☐	☐	☐	☐
c) **Group-Observer/Moderator** interaction	**strongly agree**					**strongly disagree**
i) Group members feel more comfortable when **observer** is from the **same nationality**	☐	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐	☐
ii) Group members try to **impress/satisfy** the **observer**	☐	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐	☐
iii) Group members seem to have significant **difficulties communicating** their **thoughts** in a structured and **organized** manner	☐	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐	☐
iv) Hierarchy and **power-distribution** seem to **filter true criticism** and findings of group members	☐	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐	☐
2) Individual methods						
a) **Individual-System** interaction	**strongly agree**					**strongly disagree**
	☐	☐	☐	☐	☐	☐
i) The **interaction-style** can be defined as rather **cautious** and **shy**						If **not cautious and shy**, then:
	☐	☐	☐	☐	☐	☐
						If **not cautious and shy**, then:
	☐	☐	☐	☐	☐	☐
ii) Interaction is driven with the **aim of success**						If **not success**, then:
	☐	☐	☐	☐	☐	☐

If **not success**, then:

iii) **'Failed'** interaction is considered as a **shame**

iv) User has **difficulties speaking out aloud** what s/he is thinking

v) Individual enjoys **'playing around' with the system** to discover its functions

b) **Individual-Observer/Moderator** interaction

strongly agree — strongly disagree

i) Individuals feel more comfortable when **observer** is from the **same nationality**

ii) The individual tries to **impress/satisfy** the observer

iii) **Extreme findings** are rather **harmonized** by the individual

iv) Individual seems to have significant **difficulties communicating** their **thoughts** in a structured and **organized** manner

D) **Context** Considerations

strongly agree — strongly disagree

1) The recruitment of **sufficient and applicable participants** for usability-studies generally dos **not** cause **any problem**.

If **not**:

If **not**:

2) **Warm-up sessions** to get to know each other are absolutely **necessary** to receive trustworthy results.

3) Humor and **Joy-of-Testing** can be considered as a **prerequisite for success**

4) To meet the participants on an **equal footing** can be considered as a **prerequisite for success**

5) From the Western perspective participants tend to **contradictory statements and conclusions**

6) From the Eastern perspective these **contradictions** are required to **maintain harmony**

8) Your Top three to five **companies in terms of usability engineering** in res. In	(1)	(2)	(3)	(4)	(5)
	(1)	(2)	(3)	(4)	(5)

11.4.2 Results

11.4.2.1 Participant's Profile

Out of 70 invited internationally experienced usability-specialists, 15 participants completed the survey what approximates a response-rate of about 21.4%. The number of male participants was four times the number if females respondents. The majority of participants perceive themselves as academics.

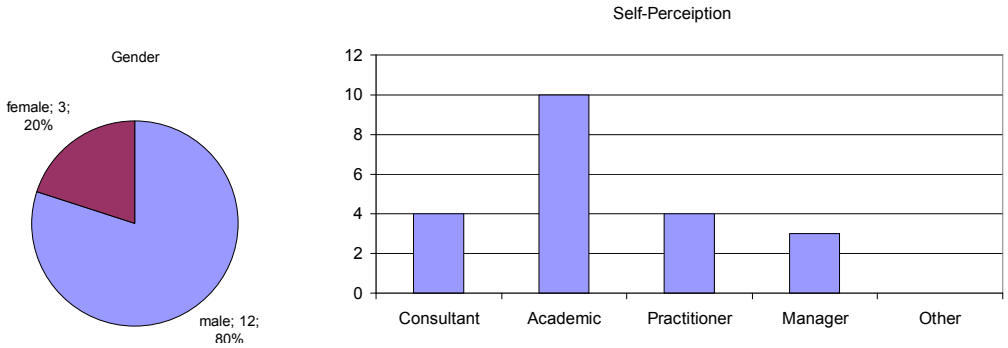
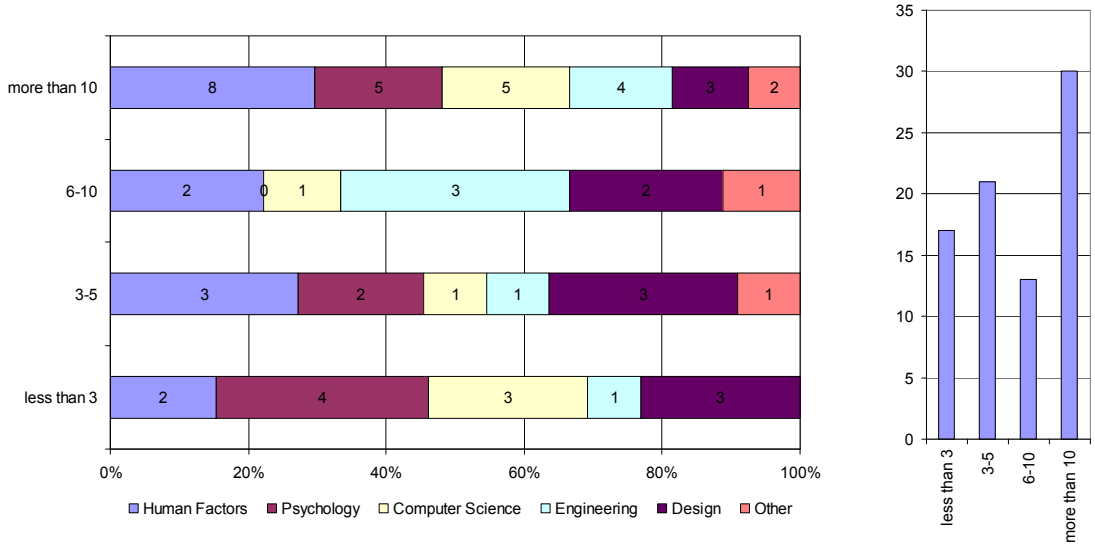


Figure 11.1: Gender and Self-Perceiption

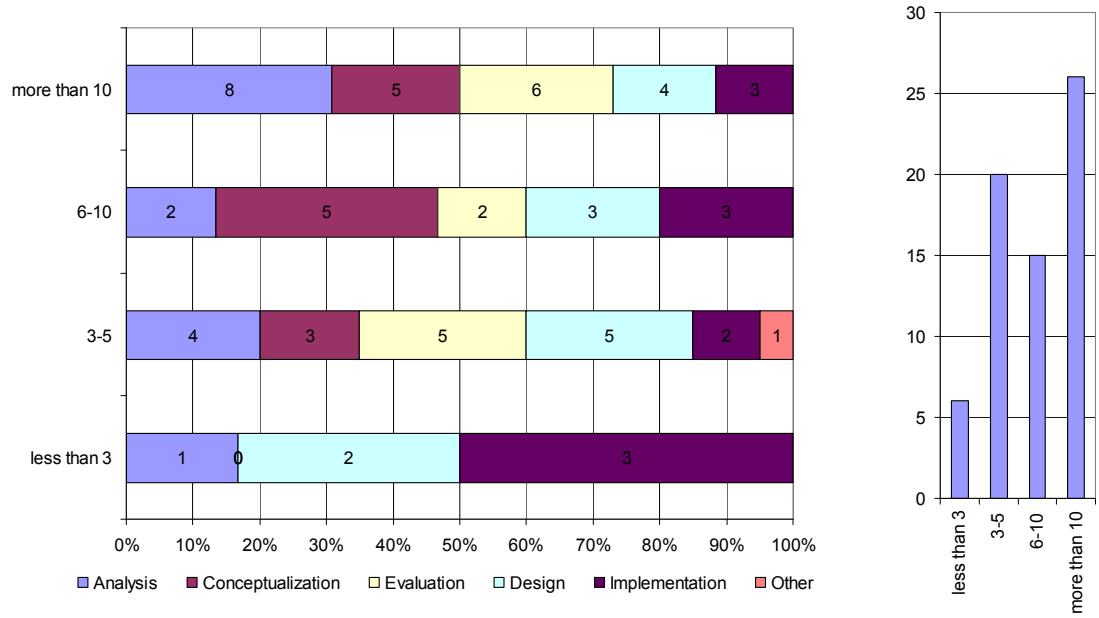
The sample can be described as experienced and interdisciplinary. All participants have experiences, either practical or academic, in more than just one field for at least more than 3 years and the majority has at least one field of expertise with more than 10 years of experience.



other = cross-cultural communication,
user experience/interaction design
general research

Figure 11.2: Area of Experience and Years

That applies for the participant's experience with the different stages of the development process, also. All participants have experiences with at least two stages of the development process for at least 3 years.



other = ethnographic research

Figure 11.3: Process Experience and Years

Almost all participants have experiences in applying the different stages of the user-centred development process in at least one country different from their home country. In the case of Asia, the

joint expertise of respondents covers the complete development process for Japan, China, Hong Kong and South Korea. For India, Singapore and Indonesia the development process is only partially covered.

For Australia the complete process is also covered. The only African country at least one participant has some experience in is South Africa.

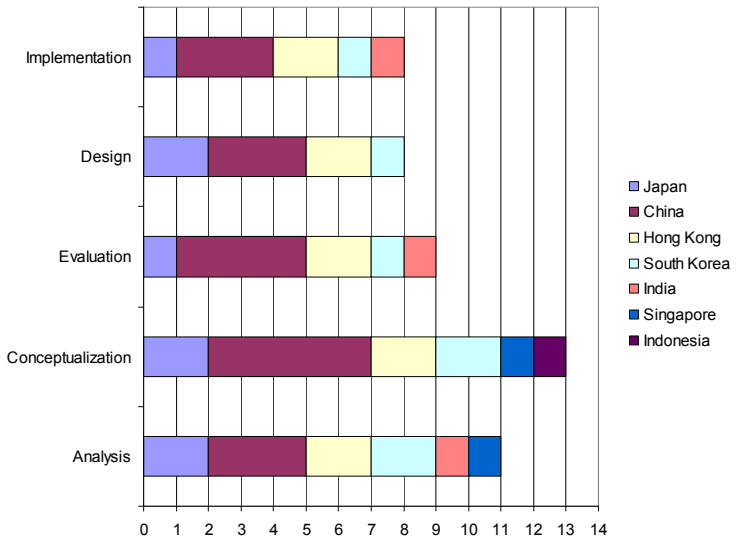


Figure 11.4: Countries of Experience in Asia

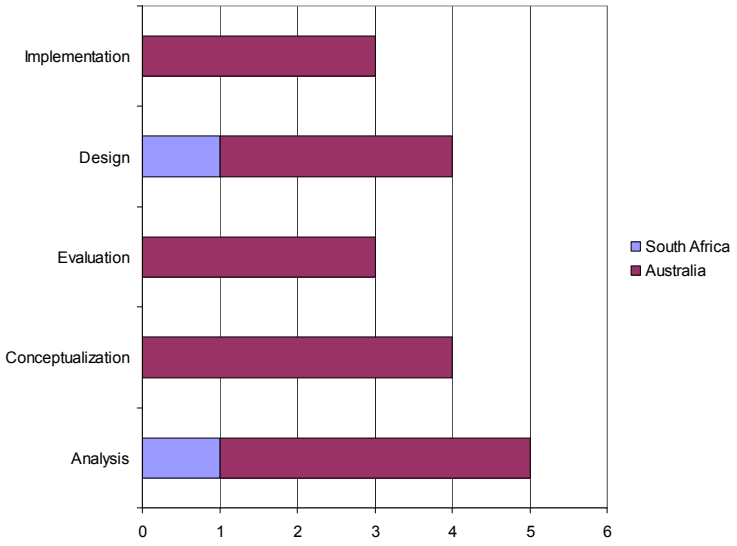


Figure 11.5: Countries of Experience in Australia and Africa

Not surprisingly the country the most participants reported experience in is the U.S. Also for Canada at least one participant has some expertise in all phases of the development process. Mexico is only partially covered.

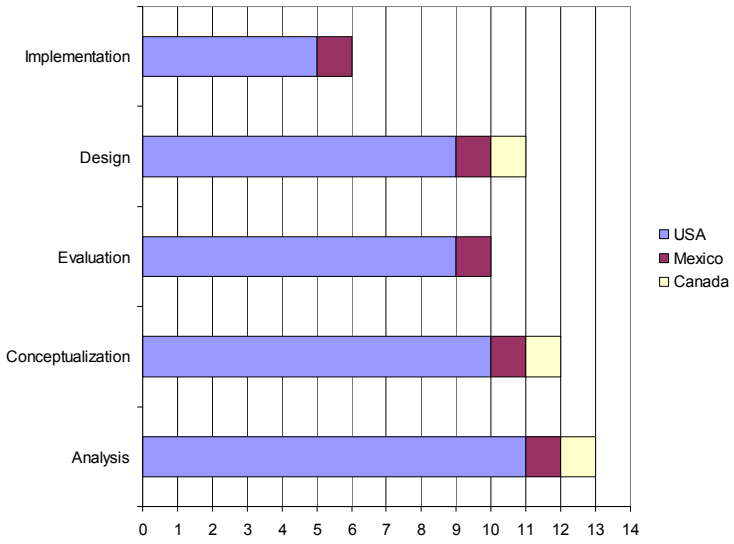


Figure 11.6:Countries if Experience in America

For Europe the participant's expertise is most evenly spread across different countries and the whole process. Countries for which the whole process is covered include Germany, with the biggest share of reported European countries of experience, France, Sweden and the UK. One participant reported being experienced all over Europe.

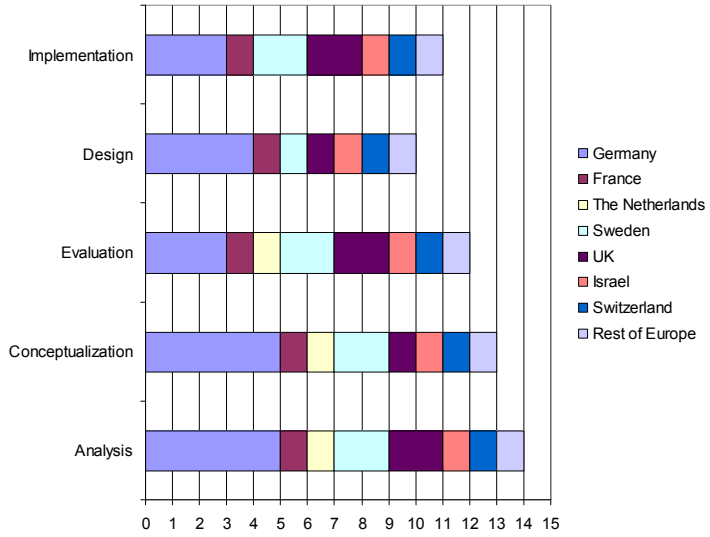


Figure 11.7: Countries of Experience in Europe

11.4.2.2 The User-Centred Development Process

Parts B) to D) were to be answered regarding two countries particular countries of which the first was the participants' home country and the second any country of their countries of experience, but preferably the one most different to their home country. The country chosen by most participants, either as home or as second country, was the USA, followed by Germany and China.

One major flaw of this survey is the small sample. For most countries answers to the questions are provided by only one individual. Based on such a small sample statistical analysis of the data is unthinkable and results cannot be considered as representative at all. Hence quantitative results

cannot be expected at this stage. However, as all participants are considered as internationally recognized experts in the field of user-centred product development and (cross-cultural) usability engineering qualitative tendencies can be justified.

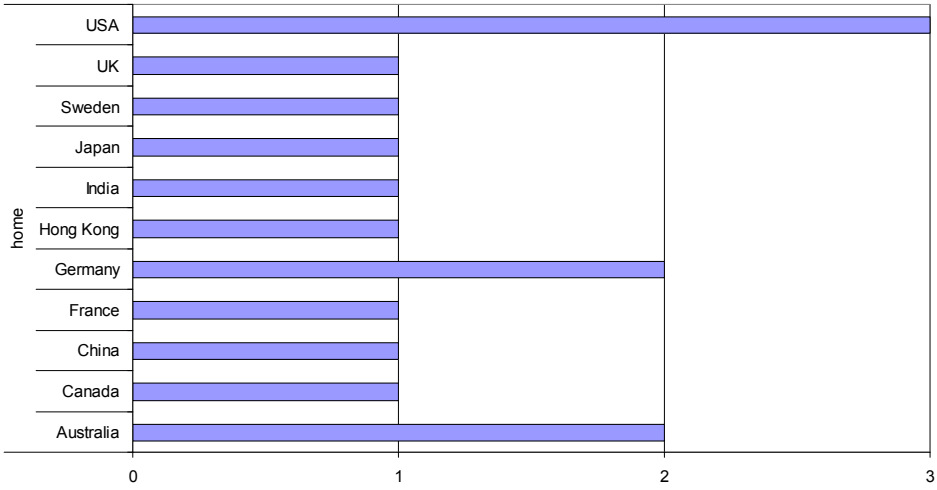


Figure 11.8: Chosen Home-Countries

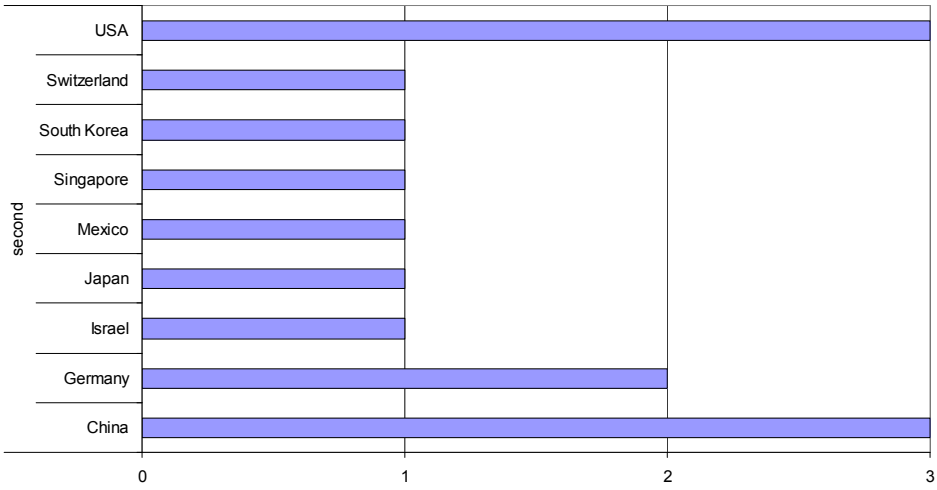


Figure 11.9: Chosen Second-Countries

General Questions

Maturity of User Centred Development Process: 1)a) & 1)b)

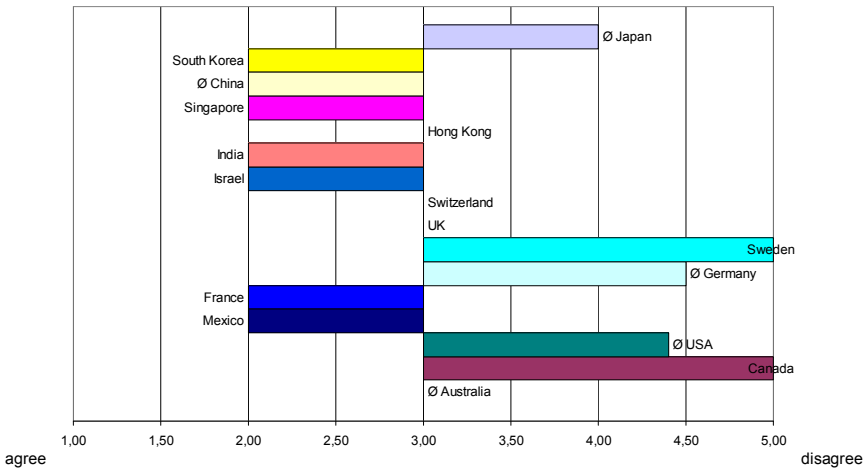


Figure 11.10: The idea of user-centeredness has not yet reached the country

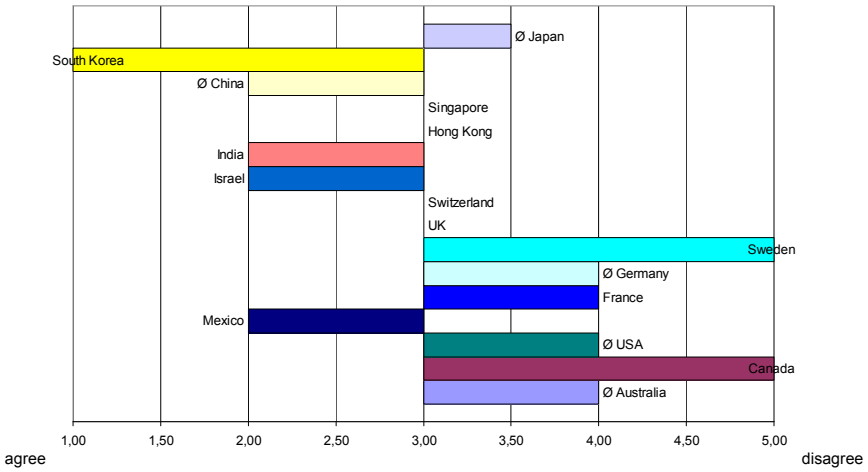


Figure 11.11: A user-centered development process has not been established yet

Comments:

- very user-centred countries are Sweden, Germany, USA and Canada; a UCD process is also developed there
- South Korea, China, Mexico, Israel and India do not yet embrace user-centeredness; they also lack a process for UCD
- Japan is surprisingly user-centred
- user-centeredness depending on IT industry and economically strength

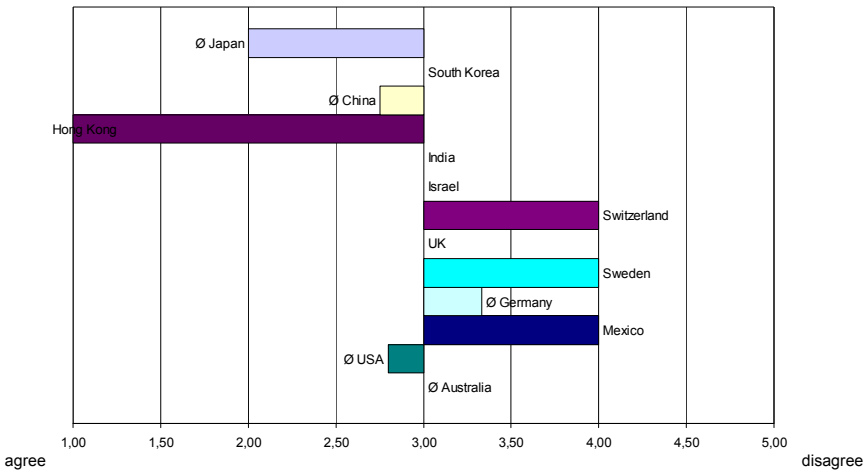


Figure 11.12: The user-centred development process differs from the UELC (Mayhew)

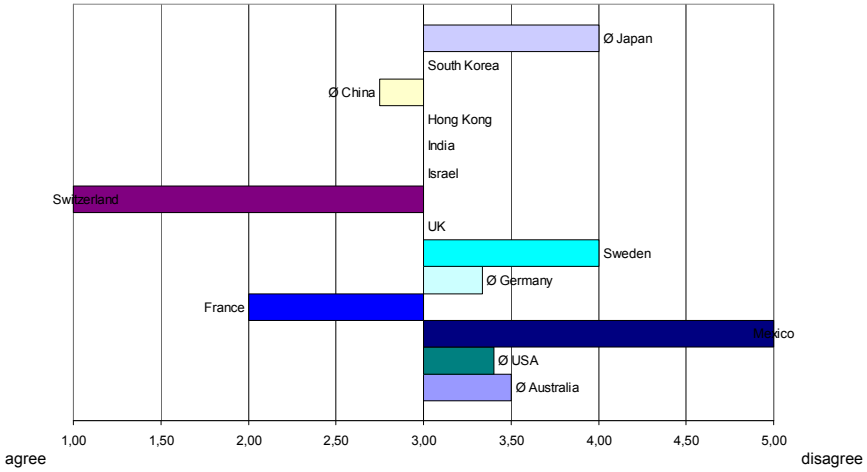


Figure 11.13: Compared to the UELC more hierarchical levels are involved

Comments:

- The process HK significantly differs from the UELC, followed by Japan
- For China and Korea a strong deviation from the UELC could not be confirmed; eventually due to lack of knowledge and immaturity of process
- For Switzerland, Sweden and Mexico a strong deviation was rather rejected
- Particularly in Switzerland more hierarchical levels are said to be involved; also France
- In Mexico, Japan and Sweden the amount of hierarchical level involved do not seem to be more than with the UELC
- questions seemed rather hard to handle for participants; no clear trend can be distinguished

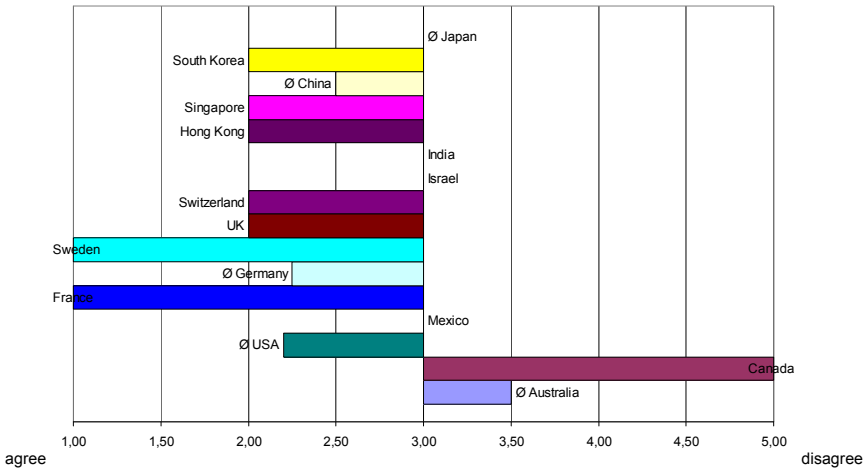


Figure 11.14: Users enjoy participating in the development-process

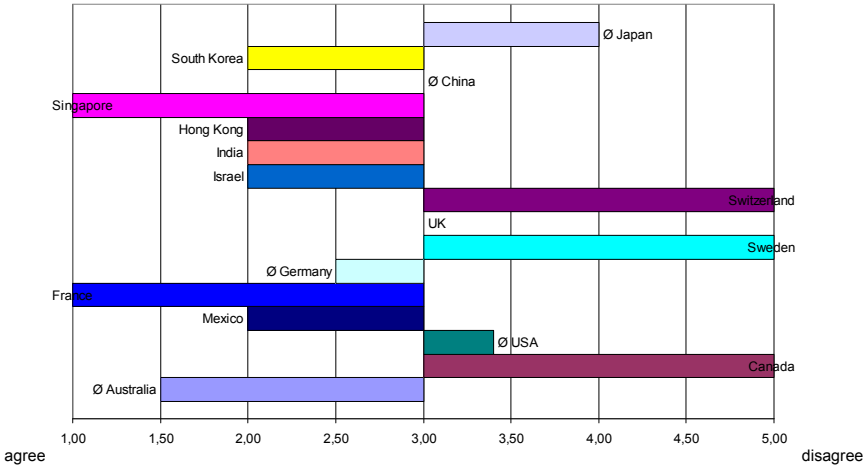


Figure 11.15: Users perceive participating in the development-process as a test-situation (feeling of stress/pressure)

Comments:

- most users seem to enjoy participating in the development process except Canadians
- even though users like to participate, most of them (SK, HK, France, Australia and Singapore in particular) perceive their participation as a test situation
- interesting is that Japanese experts reject that the Japanese user's perception of a test-situation and Chinese experts do not support this statement also
- by rejecting 1)e) and 1)f) the Canadian response seems controversial

User-Recruitment

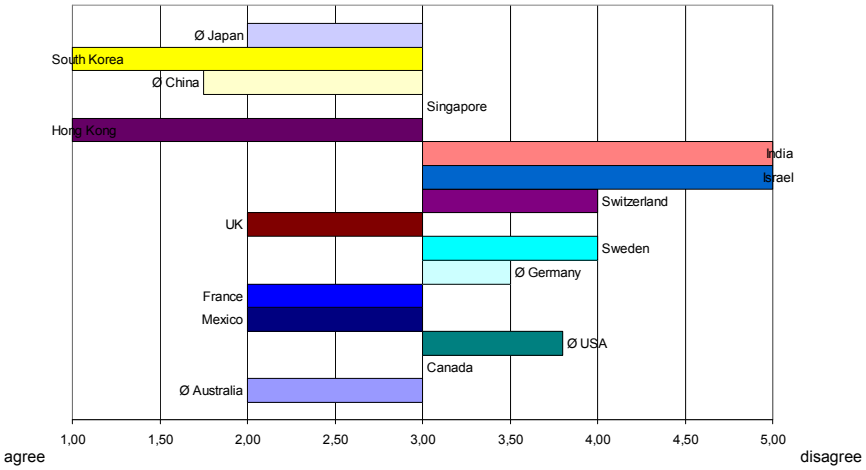


Figure 11.16: User recruitment is very difficult

Comments:

- Interestingly user-recruitment in India and Israel seems fairly easy
- User recruitment seems most difficult in Korea, Honk Kong and China, but also in Japan, UK, and Australia

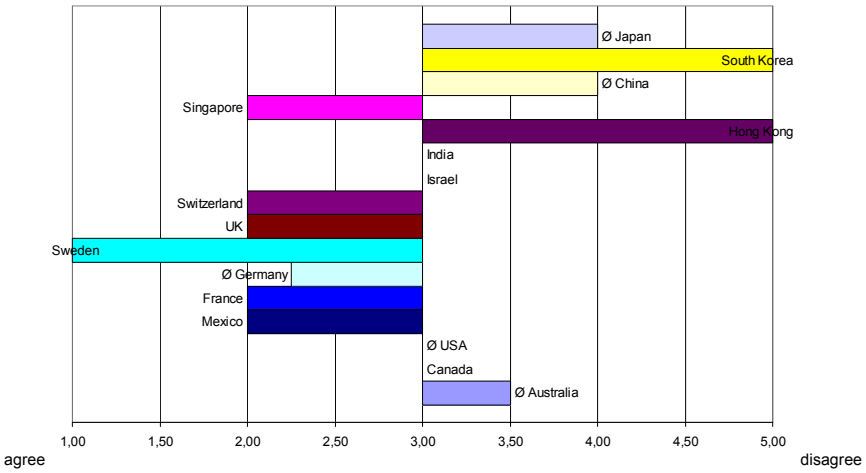


Figure 11.17: The recruitment of sufficient and applicable participants for usability-studies generally dos not cause any problems

Comments:

- Even though user-recruitment is difficult in France and Mexico, the recruitment of sufficient, applicable participants does not generally cause any problems
- Rather easy is user-recruitment in Sweden, Switzerland, USA and Germany

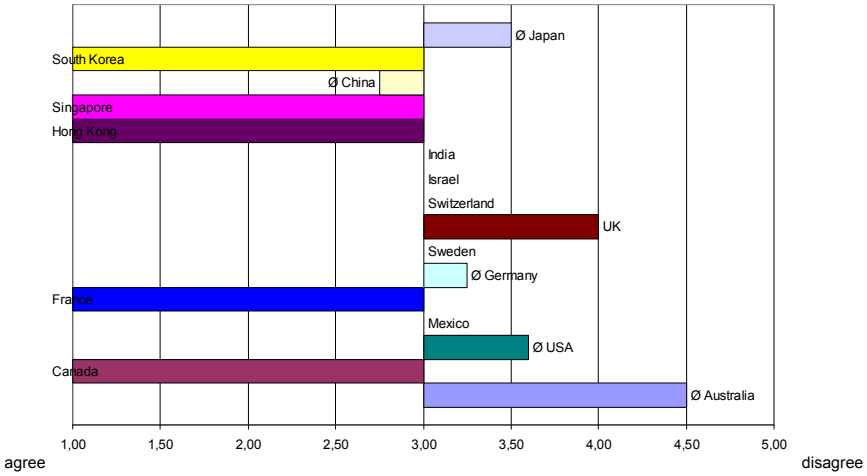


Figure 11.18: User recruitment mainly in "bring your friends, colleagues and family" fashion

Comments:

- Especially in Korea, Singapore, HK, France and Canada, user-recruitment mainly comes in "bring your friends, colleagues and family"-style
- Australia and UKI, but also Japan, Germany and USA seem more objective in their user-recruitment

Analysis

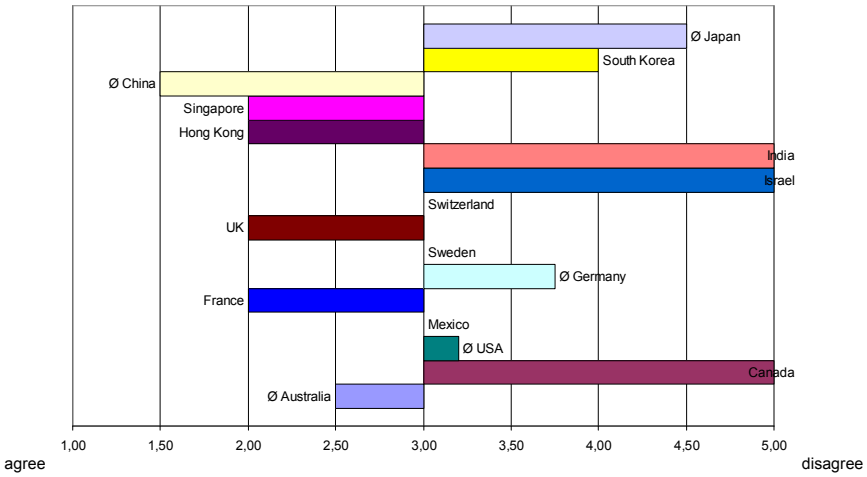


Figure 11.19: Low user involvement in User/Task-Analysis (broader utilization of user-free methods (e.g. observations, expert-interviews, information-analysis))

Comments:

- particularly in China user involvement is reported as comparatively low within analysis stage; this was also found in Singapore, Hongkong, UK and France
- highest user involvement can be found in India, Israel and Canada
- Interesting: also for Japan and Korea user-involvement is reported as comparatively high

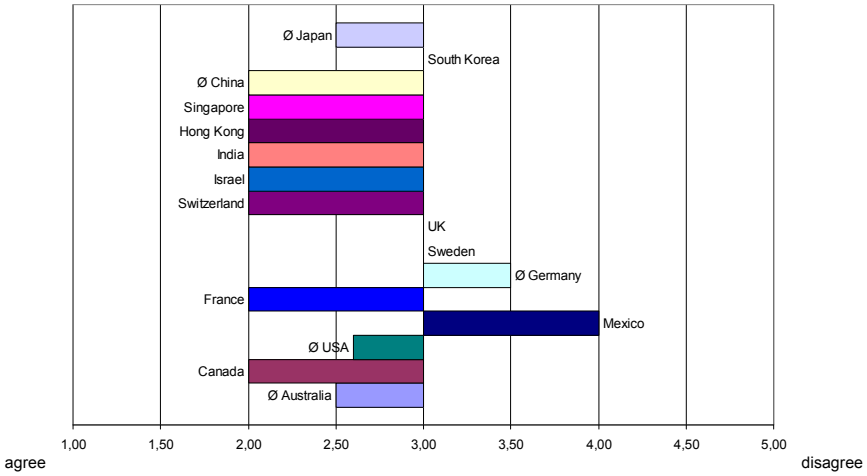


Figure 11.20: Analysis rather activity-driven (evaluation of tasks, contexts, tools, etc.)

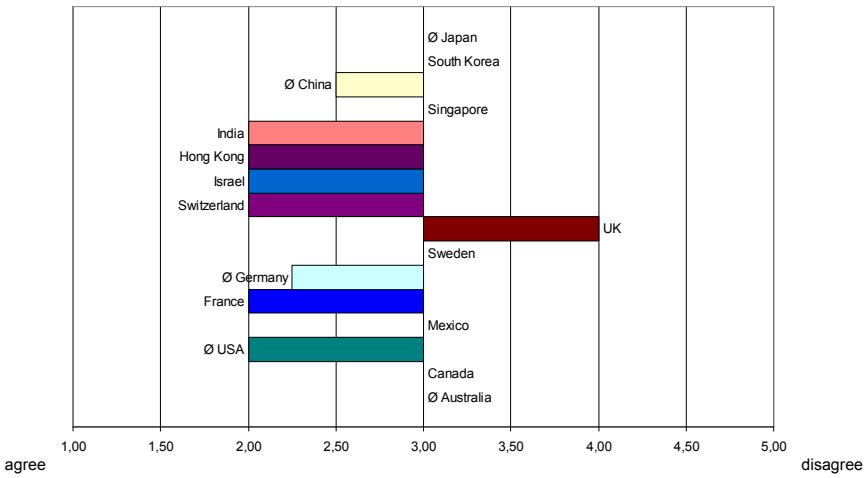


Figure 11.21: Analysis rather cognition-driven (evaluation of comprehension, information-distribution and –processing, etc.)

Comments:

- in most countries analysis seem to account for both influences on HCI-development activities and cognition
- for Mexico and Germany experts seem to propose a slight bias towards cognitive considerations; for the UK towards activity analysis

Conceptualization

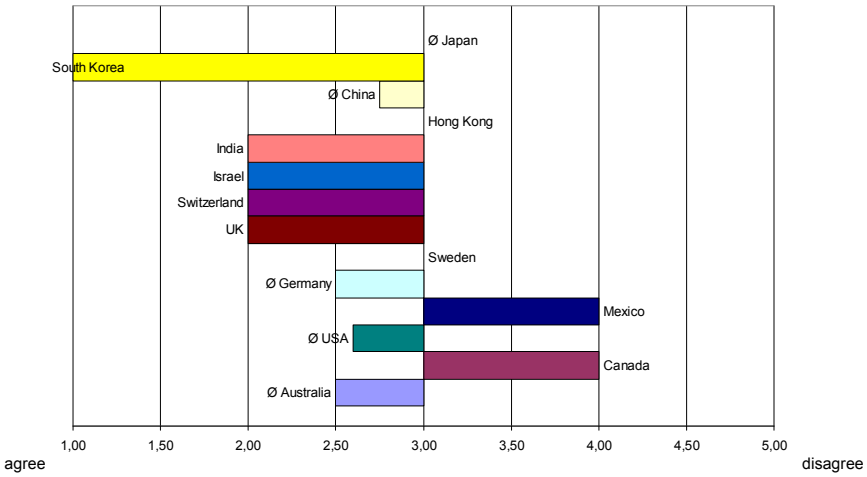


Figure 11.22: Conceptualization rather object-oriented (main focus on system parts and their attributes)

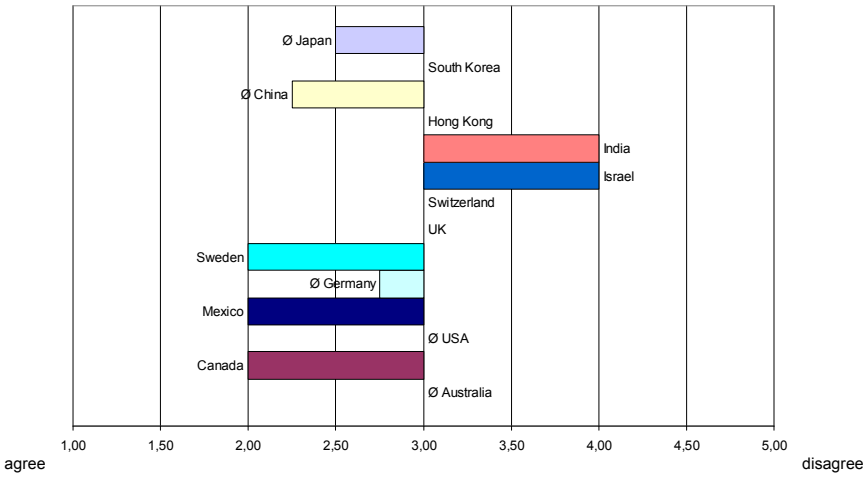


Figure 11.23: Conceptualization rather relation-oriented (main focus on system-part-relations)

Comments:

- interestingly and opposed to expectations, a tendency towards relation-orientation can be found in Mexico and Canada and a tendency towards object-orientation on India and Israel
- the strong support for object-orientation in conceptualization for Korea is to be understood as an object-oriented development-process, in which different system-parts are developed within different departments that hardly communicate with each other
- As expected China and Japan are said to favour a rather relation-oriented approach towards conceptualization. However as respondents have some background in cross-cultural education this statement could also be the result of a self-fulfilling prophecy.

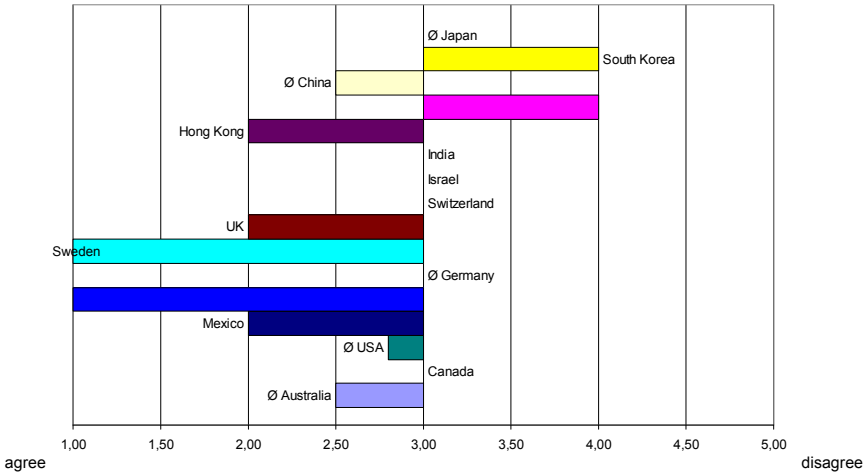


Figure 11.24: Conceptualization can be described as rather creativity-driven (innovative, borderless, organized chaos)

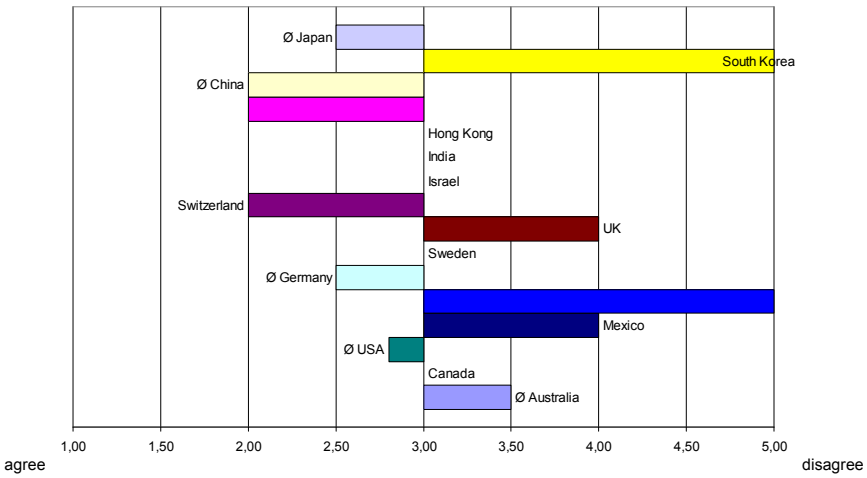


Figure 11.25: Conceptualization can be described as rather norm/guideline-driven (style-guides, traditional, constraint)

Comments

- France, Sweden, HK, UK and Mexico reported as rather creativity driven
- China, Japan, Singapore, but also Switzerland and German as rather guideline/norm-driven
- Interesting: Korea neither creativity nor guideline/norm-driven

Evaluation

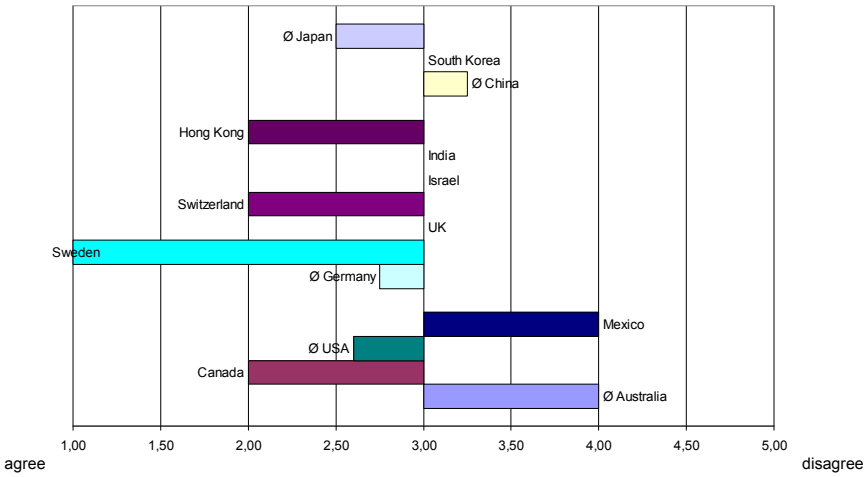


Figure 11.26: Evaluation accompanies each step of the process

Comments:

- Sweden as country with highest evaluation-penetration followed by Canada, Switzerland and HK (!); even Japan and USA higher involvement of evaluations than in Germany
- very low evaluation-penetration reported in Mexico and Australia, followed by China

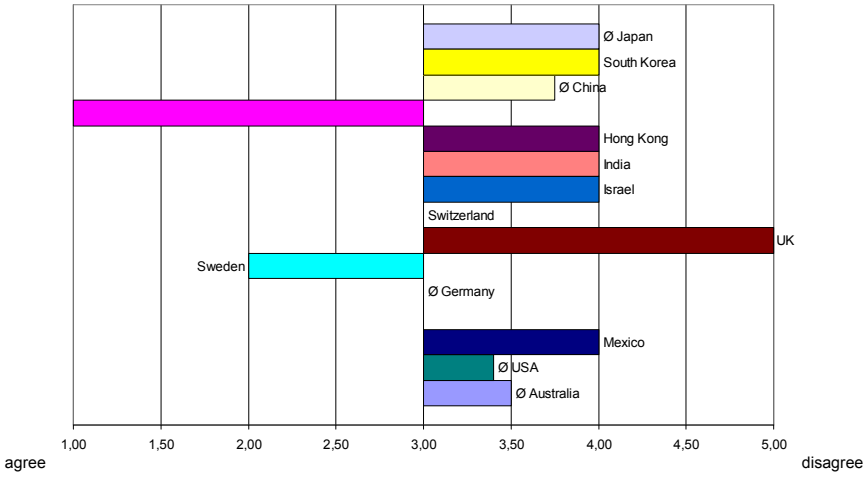


Figure 11.27: Analytical Evaluation Methods (e.g. GOMS, Cognitive Walkthrough) prevail

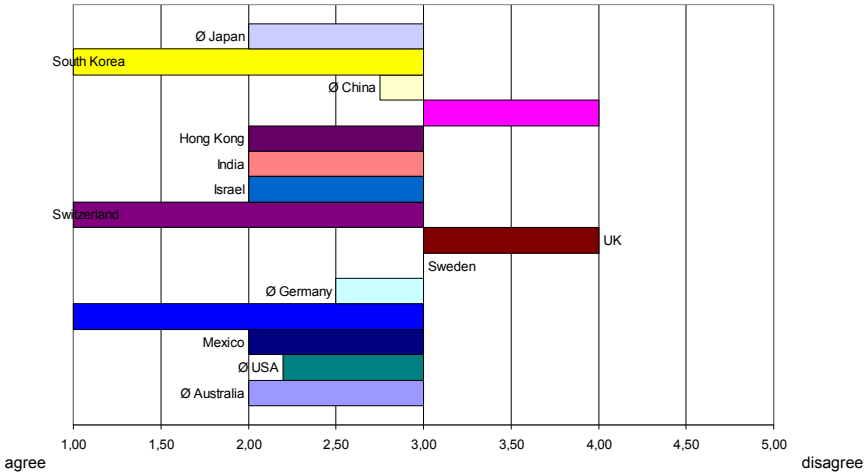


Figure 11.28: Heuristic Evaluation Methods (e.g. expert reviews, Guidelines) prevail

Comments:

- evaluation described as rather heuristic in Korea, Japan, France and Switzerland; evaluation also rather based in heuristics in HK, India and Israel, but also in Mexico, USA and Australia
- prevalence of analytic evaluations supported for Singapore
- in general heuristics methods seem to be favoured (maybe because they are cheaper, faster and easier)

Communication

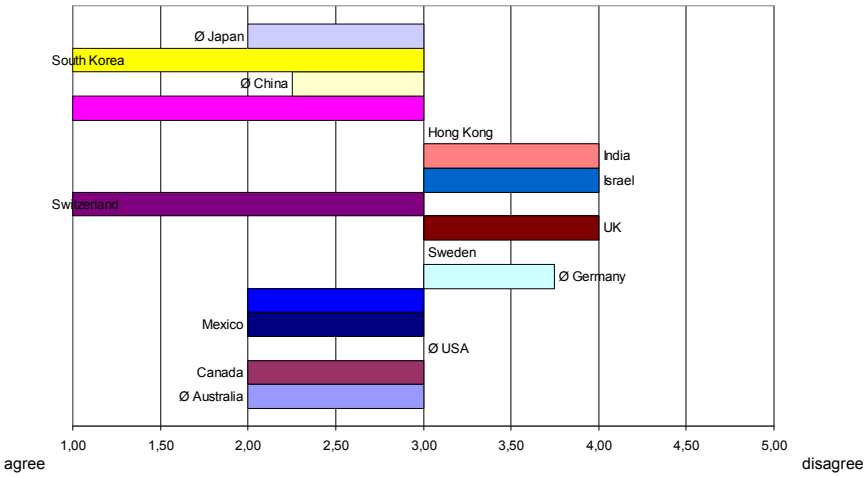


Figure 11.29: Process-internal communication has to bridge many hierarchical levels

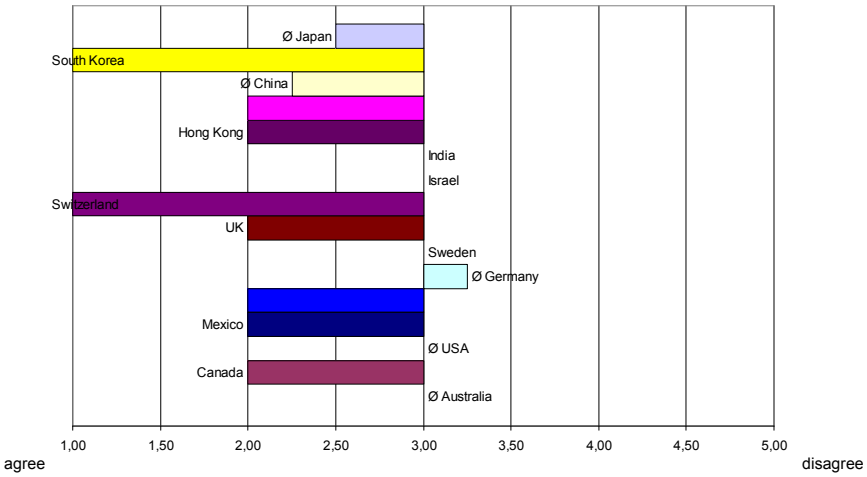


Figure 11.30: This causes communication-problems at the interfaces

Comments:

- especially in Korea, Switzerland and Singapore but also in Japan, France, Mexico, Canada and Australia the communication within the UCD-process happens across many hierarchical levels which causes communication-problems at the interfaces.
- less hierarchical levels are to be covered in Israel, India, UK and Germany
- compared to other countries and quite hierarchical communication-organization in Japan and Singapore less communication-problems are reported
- the contrary can be observed for the UK
- severe communication-problems due to the need for bridging hierarchical levels can are reported for Korea and Switzerland

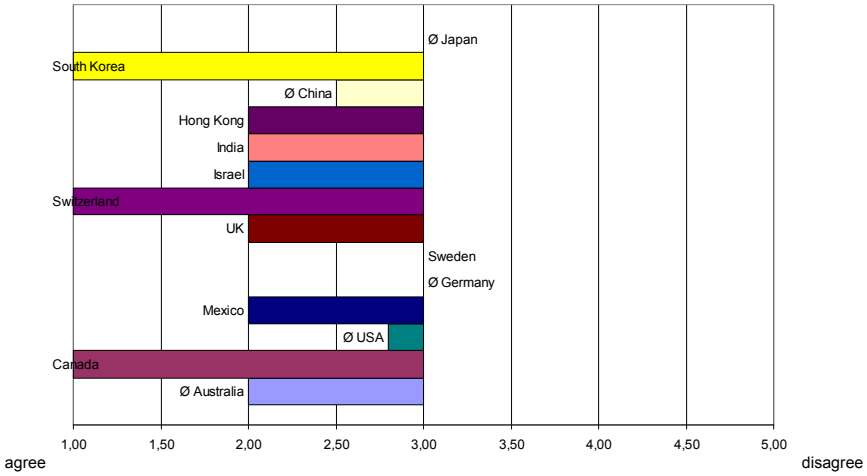


Figure 11.31: Process-external communication happens through multiple channels (as opposed to one singular channel with one person in charge)

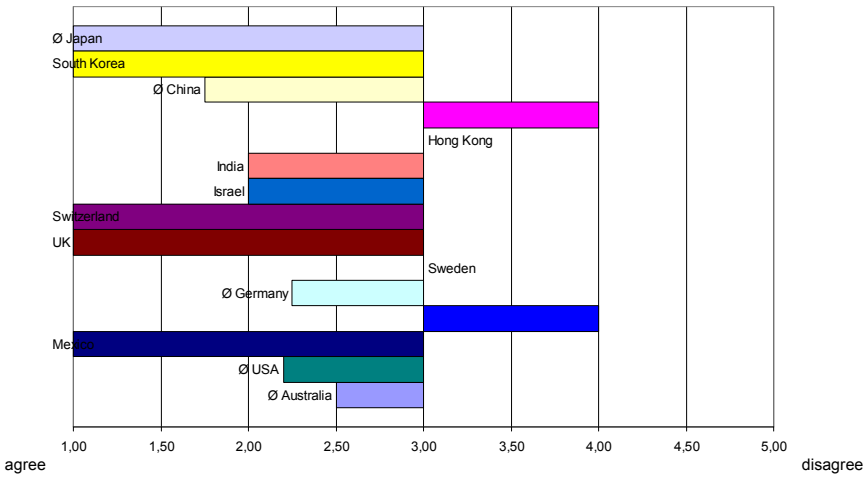


Figure 11.32: Person in charge of the whole project resident on higher hierarchical level than usability-experts

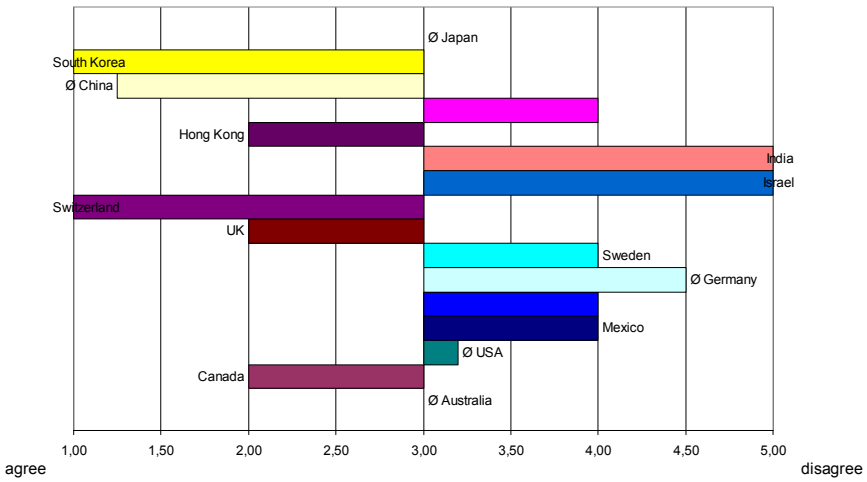


Figure 11.33: Direct communication with person in charge generally not possible

Comments:

- for almost all countries external communication through multiple channels is supported; especially for Japan, Korea, Switzerland and Canada (!only single responses!)
- only for Japan, Sweden and Germany this was not rather strongly confirmed
- for most countries the person in charge of the whole project usually resides on a higher level than usability-experts; this is the case particularly in Japan, Korea, Swiss, UK and Mexico (!all just single responses!), but also for China
- especially for China, Korea and Switzerland the direct communication with responsible person seems complicated, no problem due to hierarchical levels is reported for India and Israel, but also for Germany

The Process in General

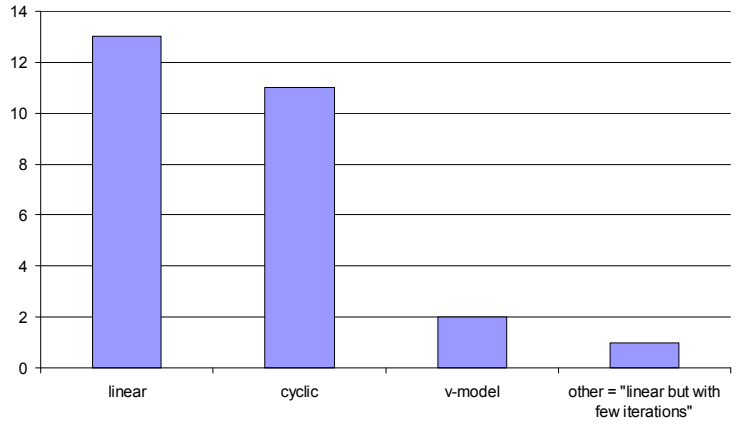


Figure 11.34Process Type – All

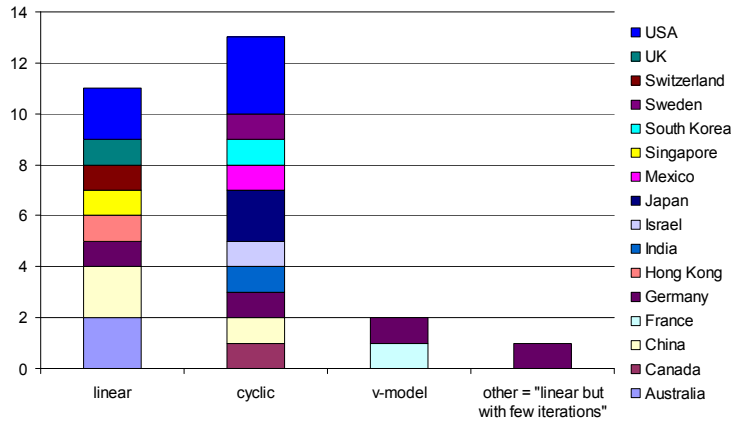


Figure 11.35Process Type - Countries

Comments:

- most UCD-processes can be describes as rather linear or cyclic
- however a clear correlation between cultural background/country and process type cannot be found
- processes seem to depend on company/institution

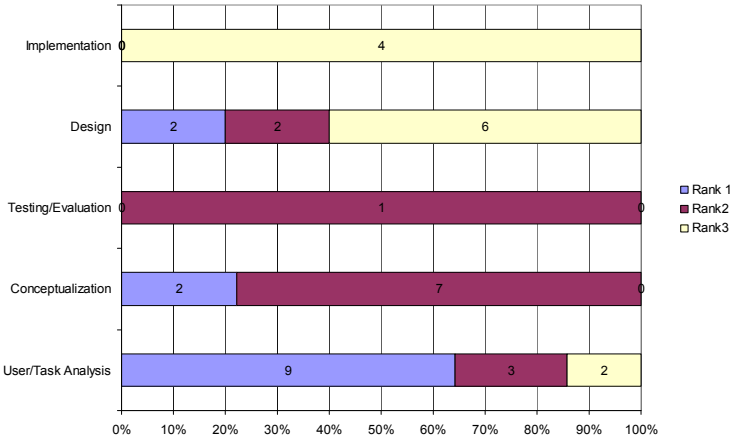


Figure 11.36: In which steps of the development process the largest differences to the UELC can be observed (please rank) - all countries

Comments:

- low response rate shows difficulty in answering this question
- however conceptualization and user/task analysis seem to have the largest differences compared to the UELC

Table 11.1: Deviation according to country

Country	Rank1	Rank2	Rank3
Australia	○ User/Task Analysis		
China (N=3)	○ Design ○ User/Task Analysis ○ feasibility/product concept	○ Testing/Evaluation ○ requirements	○ Implementation ○ Design
France	○ User/Task Analysis	○ Conceptualization	○ Design
Germany (N=2)	○ Conceptualization ○ Ethnographic research	○ User/Task Analysis ○ User/Task Analysis	○ Design ○ Implementation
Hong Kong	○ User/Task Analysis	○ Conceptualization	○ Design
Japan	○ User/Task Analysis	○ Conceptualization	○
Mexico	○ Ethnographic research	○ User/Task Analysis	○ Implementation
Sweden	○ Conceptualization	○ Design	○ User/Task Analysis
Switzerland	○ User/Task Analysis	○ Conceptualization	○ Design
UK	○ User/Task Analysis	○ Design	○ Implementation
USA (N=3)	○ Design ○ User/Task Analysis ○ User/Task Analysis	○ Conceptualization ○ Conceptualization ○ Conceptualization	○ User/Task Analysis ○ Design

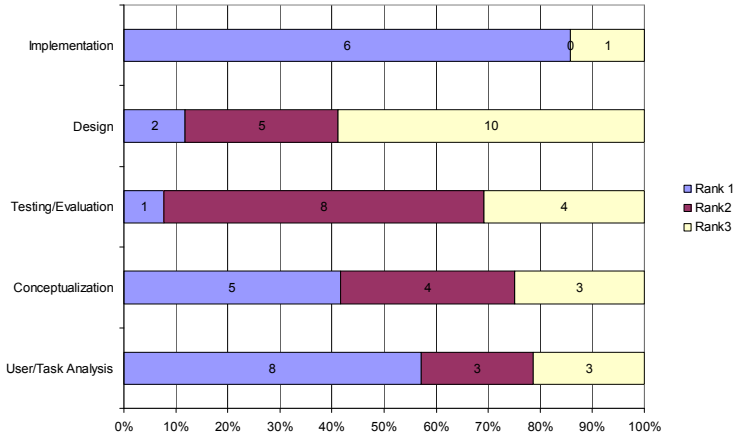


Figure 11.37: Which steps of the process are considered as the most important one (please rank) - all countries

Comments:

- Implementation followed by user/task analysis and conceptualization seem to be perceived as the most important steps
- design and testing/evaluation receive the least attention within the rating
- eventually due to participants background (comparatively small portion of designers)
- importance according to country

Table 11.2: Importance according to country

Country	Rank1	Rank2	Rank3
Australia (N=2)	○ Conceptualization ○ Requirements	○ Usability Testing	○ Design
China (N=3)	○ User/Task Analysis ○ User/Task Analysis ○ Requirements	○ Testing/Evaluation ○ Usability Testing	○ Design ○ Design
France	○ User/Task Analysis	○ Conceptualization	○ Testing/Evaluation
Germany (N=4)	○ User/Task Analysis ○ User/Task Analysis ○ Design ○ Conceptualization	○ Conceptualization ○ Conceptualization ○ Testing/Evaluation ○ User/Task Analysis	○ Design ○ Testing/Evaluation ○ User/Task Analysis ○ Design
Hong Kong	○ User/Task Analysis	○ Testing/Evaluation	○ Design
India	○ User/Task Analysis	○ Testing/Evaluation	○
Israel	○ Implementation	○ Testing/Evaluation	○ Conceptualization
Japan	○ Implementation	○ Design	○ Conceptualization
Mexico	○ Design	○ Testing/Evaluation	○ User/Task Analysis
Singapore	○ Testing/Evaluation	○ User/Task Analysis	○ Design
South Korea	○ Implementation	○ Testing/Evaluation	○ Conceptualization
Sweden	○ Conceptualization	○ User/Task Analysis	○ Design
Switzerland	○ Implementation	○ Testing/Evaluation	○ Design
UK	○ Conceptualization	○ Design	○ Implementation
USA (N=4)	○ Implementation ○ User/Task Analysis ○ Implementation ○ Conceptualization	○ Design ○ Conceptualization ○ Design ○ Design	○ Testing/Evaluation ○ Design ○ User/Task Analysis ○ Testing/Evaluation

11.4.2.3 Experience with Usability Methods

General Questions

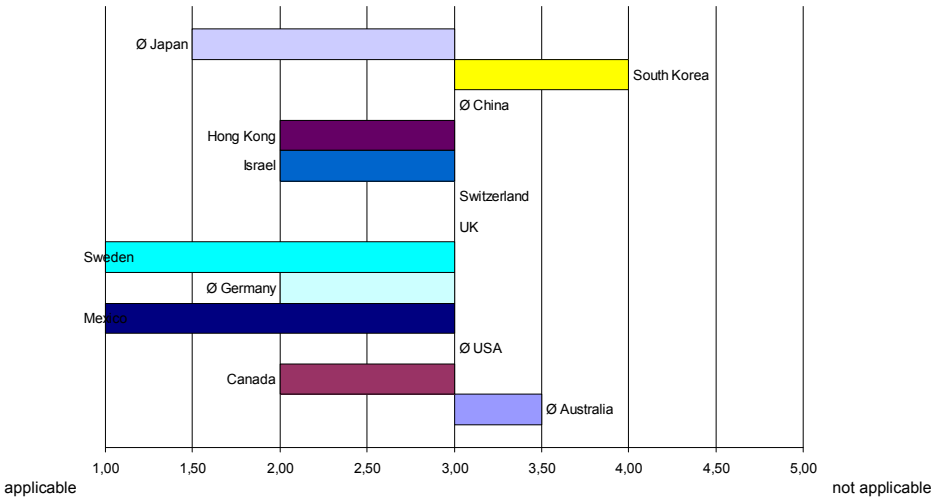


Figure 11.38: Applicability of Card Sorting

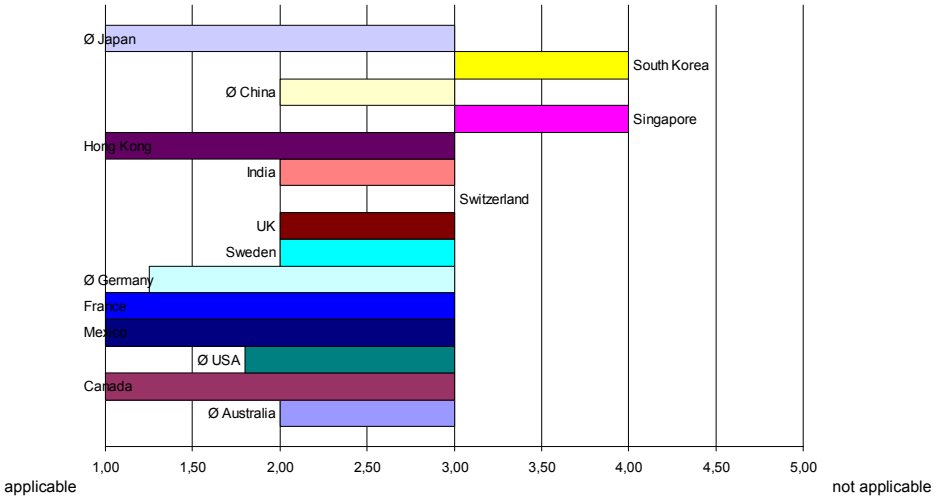


Figure 11.39: Applicability of Depth Interviews

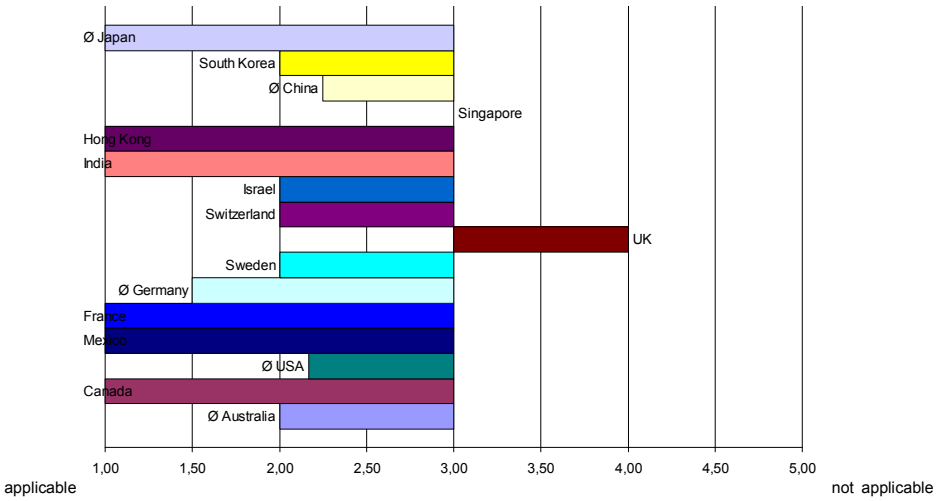


Figure 11.40: Applicability of Expert Interviews

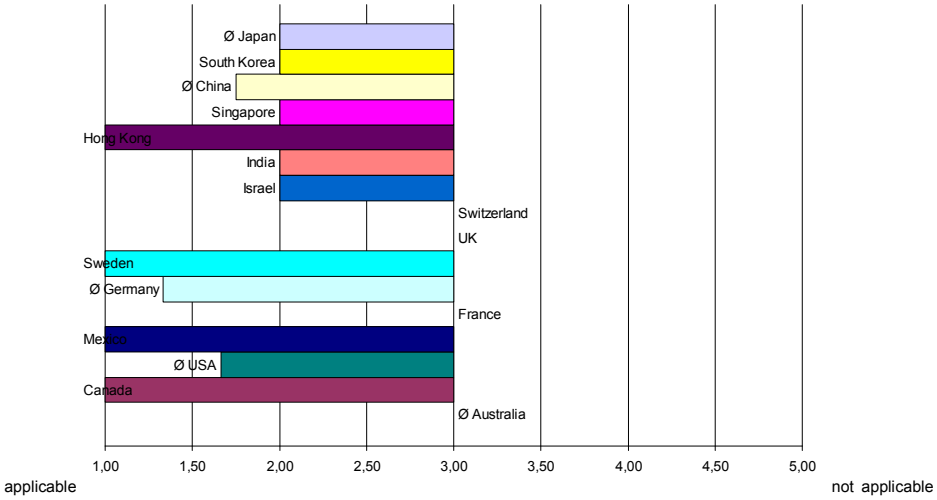


Figure 11.41: Applicability of Field Testing

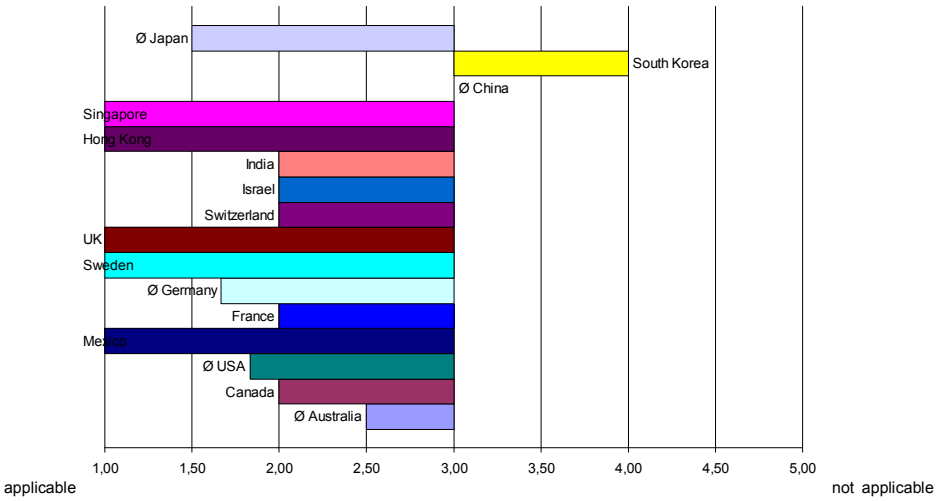


Figure 11.42: Applicability of Group Discussions

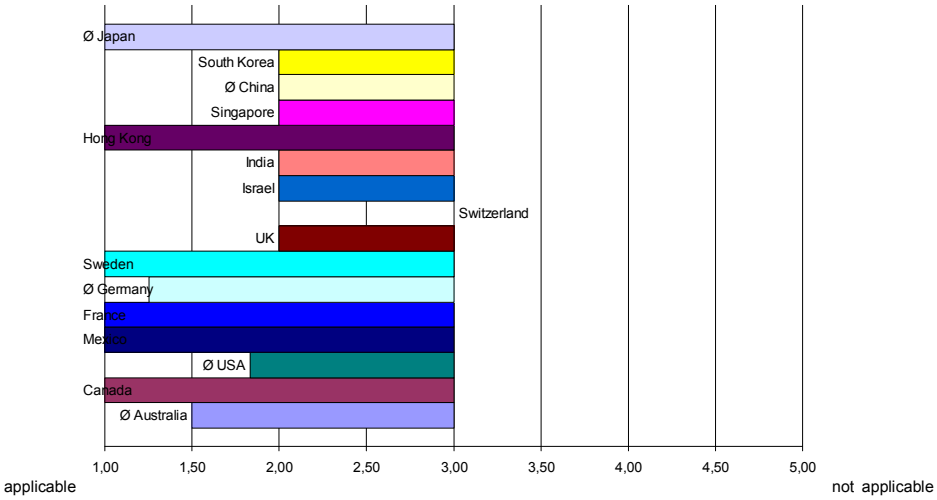


Figure 11.43: Applicability of Observations

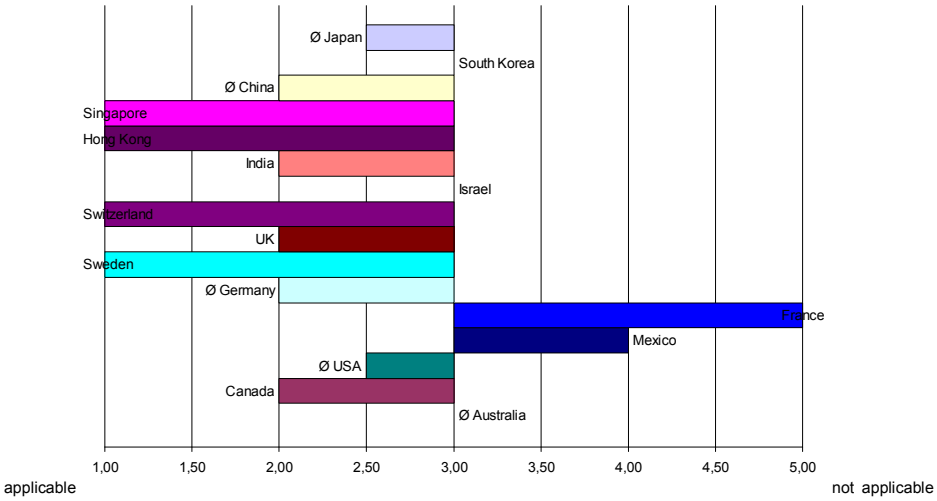


Figure 11.44: Applicability of Online-Questionnaires

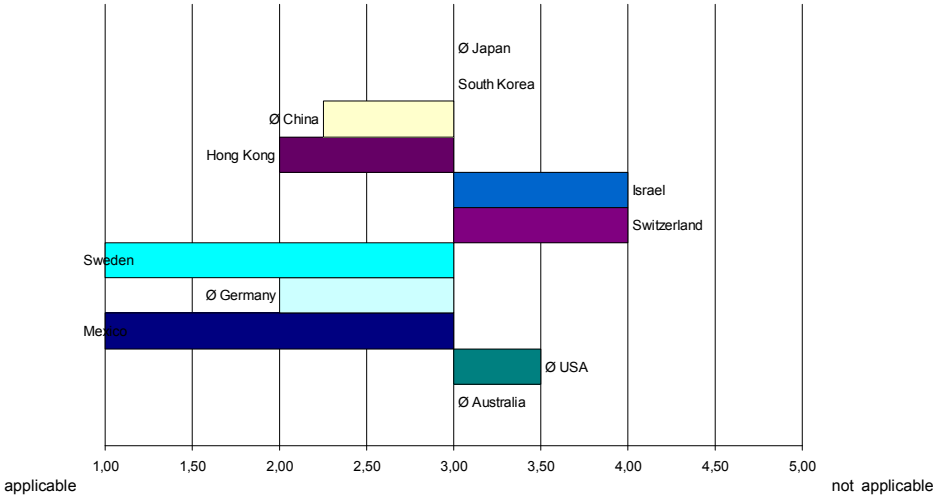


Figure 11.45: Applicability Out-Of-The-Box-Testing

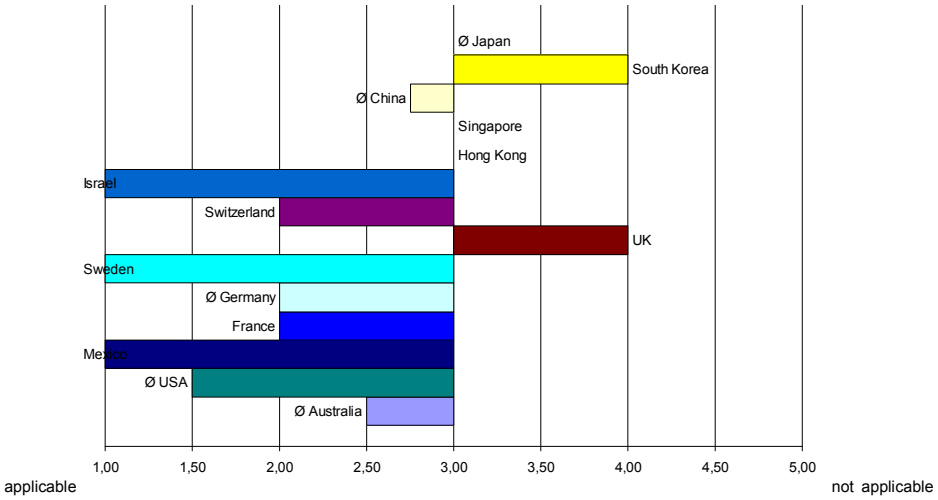


Figure 11.46: Applicability of Paper Prototyping

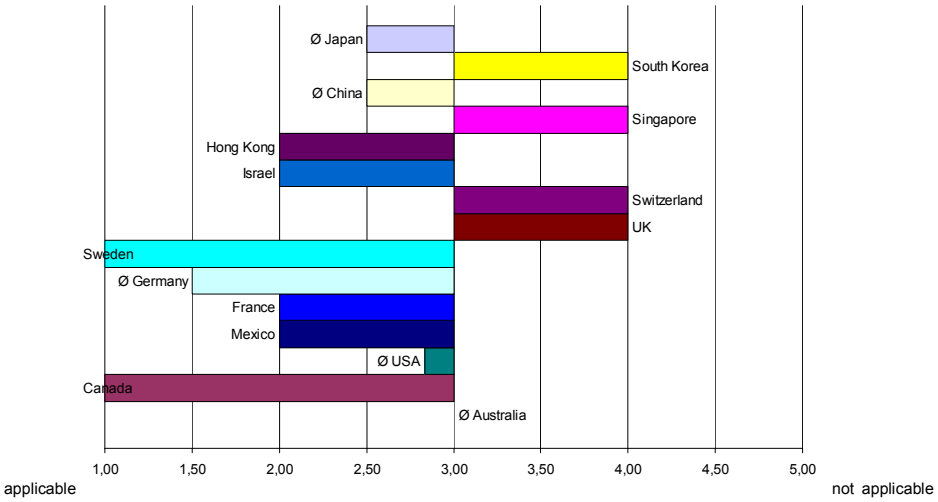


Figure 11.47: Applicability of Participatory Design

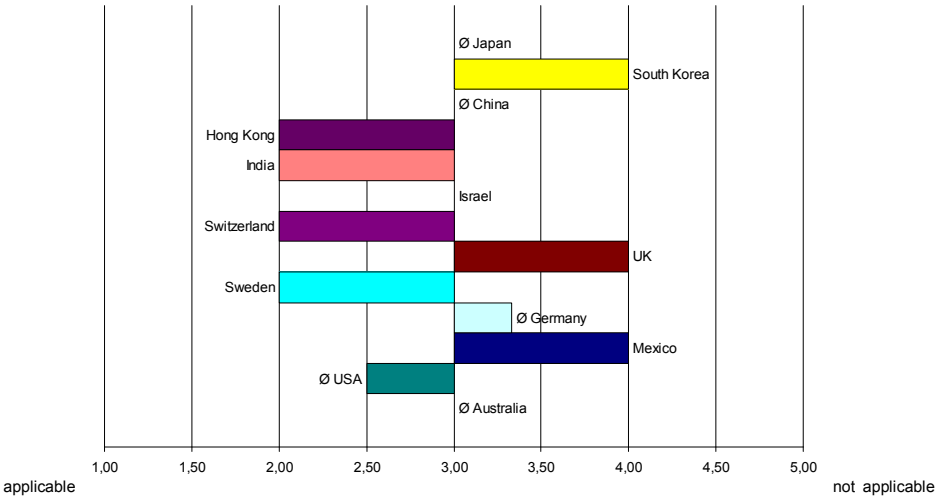


Figure 11.48: Applicability of Remote Testing

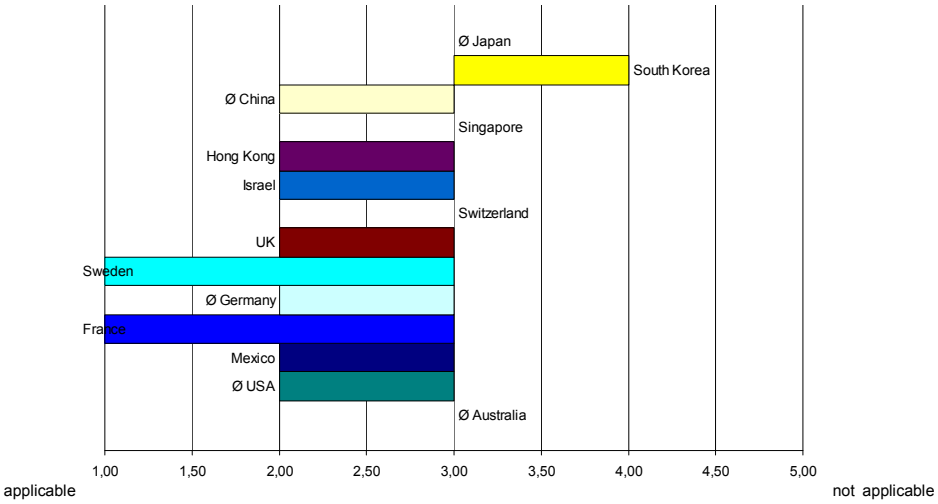


Figure 11.49: Applicability of Scenario Testing

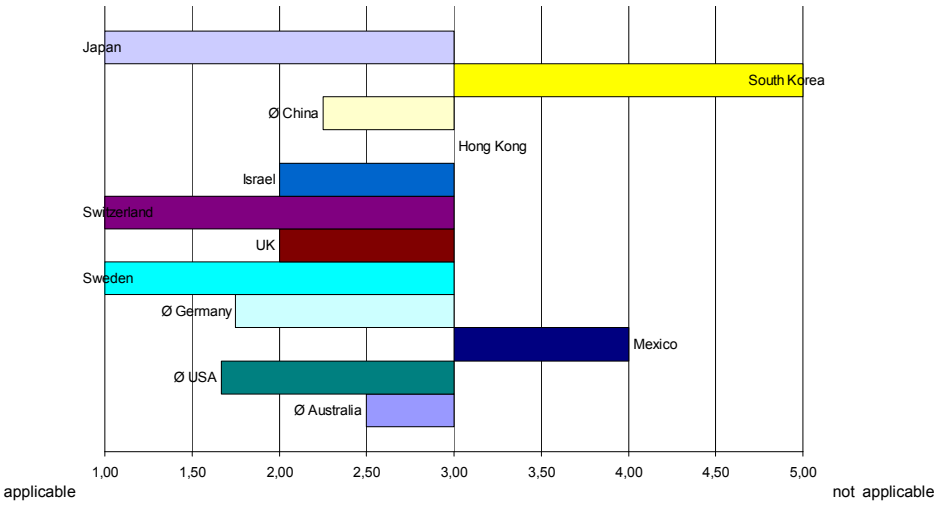


Figure 11.50: Applicability of Thinking Aloud Testing

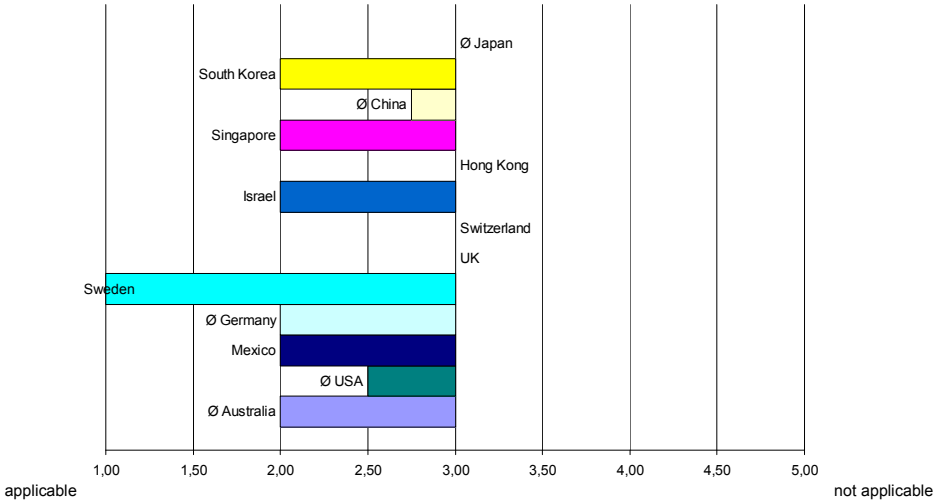


Figure 11.51: Applicability of Use-Cases

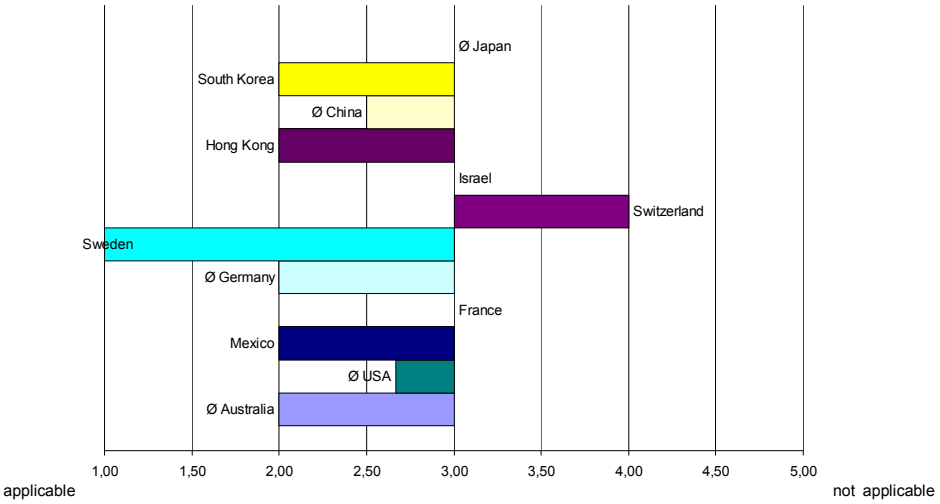


Figure 11.52: Applicability of User Experience-Testing

Table 11.3: Top Three analysis-methods for user-oriented cross-cultural product development

Country	Rank 1	Rank 2	Rank 3
Australia	○ User Participation	○ Prototyping	
Canada	○ statistical analysis	○ interview analysis	
China	○ Focus Group	○ Field Observations	○ Interviews
France	○ questionaire	○ task analisys	○ conceptuzalisation testing
Germany (N=3)	○ Task Analysis ○ Think-aloud ○ ethnographic research	○ Requirements Gathering ○ Observation ○ personal in-depth interviews	○ Use Cases ○ observation
Hong Kong	○ Heuristics	○ Checklist	○ Questionnaire
India	○ Observation	○ Group discussion	
Japan (N=2)	○ Interview ○ statistical analysis	○ Observation ○ interview analysis	
Mexico	○ ethnographic research	○ personal in-depth interviews	○ observation
Singapore	○ testing	○ questionaire	
UK	○ ethnographic studies	○ participatory design	○ card sorting
USA (N=2)	○ Requirements Gathering ○ Interview	○ Task Analysis ○ Observation	○ Use Cases

Table 11.4: Top Three evaluation-methods for user-oriented cross-cultural product development

Country	Rank 1	Rank 2	Rank 3
Australia	○ User Testing	○ Prototyping	
Canada	○ online survey	○ interview	○ eye-tracking
China (N=2)	○ Focus Group ○ usability test	○ Field Observations	○ Interviews
Germany (N=3)	○ Heuristic evaluation ○ User experience testing ○ paper prototype testing	○ Think aloud ○ formative usability testing	○ Guidelines ○ cognitive walkthrough
Hong Kong	○ Heuristics	○ Checklist	○ Questionnaire
India	○ Field testing	○	

Country	Rank 1	Rank 2	Rank 3
Israel	○ observation	○ depth interview	
Japan (N=2)	○ Usability testing ○ online survey	○ Heuristic evaluation ○ interview	○ eye-tracking
Mexico	○ high fidelity prototype testing	○ informal testing	○ cognitive walkthrough
UK	○ local user testing	○ remoite testing	○ expert review
USA (N=4)	○ Think aloud ○ usability testing ○ depth interview ○ usability test	○ Heuristic evaluation ○ heuristic evaluation ○ group discussion	○ Focus groups ○ observation

Table 11.5: Top Three reasons for failure in cross-cultural product development projects

Country	Rank 1	Rank 2	Rank 3
Australia	○ not understanding requirements	○ insufficient budget	○ unreasonable schedule
Canada	○ lack of participation		
China (N=3)	○ not understanding requirements ○ Finance limitation ○ lack of knowledge about the user	○ Time constraint	
France	○ think all people are the same	○ modernity	○ marketing
Germany (N=3)	○ Communication ○ Less intercultural competence ○ lack of cross-cultural experience and understanding	○ Travel ○ communication issues	○ Language ○ lack of putting oneself in a relative position
Hong Kong	○ Financial Resource Limitation	○ Time constraint	
India	○ Hierarchy	○ Less user participation	
Israel	○ lack of awareness of management of challenges	○ insufficient funds for testing	
Japan (N=2)	○ requirement analysis ○ lack of participation		
Mexico	○ lack of cross-cultural experience and understanding	○ communication issues	○ lack of putting oneself in a relative position
Singapore	○ marketing	○ modernity	○ sophistication
UK	○ not user led	○ global (marketing?) requirements	○ lack of expertise
USA (N=4)	○ Communication ○ ethnocentric attitude ○ lack of appropriate participants ○ lack of knowledge about the user	○ Funding ○ insufficient funds for testing	○ Translation

Table 11.6: Top Three advice for being prepared for cross-cultural product development projects

Country	Rank 1	Rank 2	Rank 3
Australia	○ ethnocentric avoidance	○ anthropological respective culture	○ User Participation
Canada	○ determine conceptual foundation	○ in country contact for recruitment	○ translation/backtranslation
China (N=2)	○ ethnocentric avoidance ○ Awareness of importance of human factors	○ convince management to beleive in human factors research	
France	○ cross cultural knowledge	○ modesty	○ customisation

Country	Rank 1	Rank 2	Rank 3
Germany (N=3)	○ In country representative ○ get to know a culture first ○ long-term field research experience including a second socialization	○ Remote testing environment ○ language skills	○ Translations ○ local knowledge
Hong Kong	○ Awareness of importance of human factors	○ Convince marketing management to beleive in human factors research	
India	○ Awaireness for user participation	○ Less interruption from bosses	
Israel	○ get top management to buy in		
Japan (N=2)	○ conduct user survey ○ determine conceptual foundation	○ adopt usability professionals ○ n country contact for recruitment	○ translation/backtranslation
Mexico	○ long-term field research experience including a second socialization	○ language skills	○ local knowledge
Singapore	○ a new marketing	○ cognitive analysis	○
UK	○ plan for it / allow time	○ balance gloabl reqts with local needs	○ particpatory design
USA (N=3)	○ Remote testing environment ○ learn from targeted region ○ get top management to buy in	○ In country representative	○ Funding

Table 11.7: Top Three traits of users

Country	Rank 1	Rank 2	Rank 3
Australia	○ Openess	○	○
Canada	○ fairly open	○	○
China (N=2)	○ Openess ○ voluntary	○ students	○ workers
Germany (N=2)	○ Toroughness ○ open critics	○ no problems with artificial test settings	○ unpersonal methods applicable
Hong Kong	○ voluntary	○ students	○ workers
Israel	○ opinionated	○ engaged	○ cognitively acute
Japan	○ introverted ○ cautious	○ more charmed with functionality and performance	○ tend to be similar to people nearby
Mexico	○ less open critics in conversations	○ context matters much more	○ trustworthy relationship has to be established first
USA (N=3)	○ Professional testers ○ independent ○ articulate	○ Education ○ aggressive and competitive ○ engaged	○ opinionated

Single Person Methods

Person-System Interaction

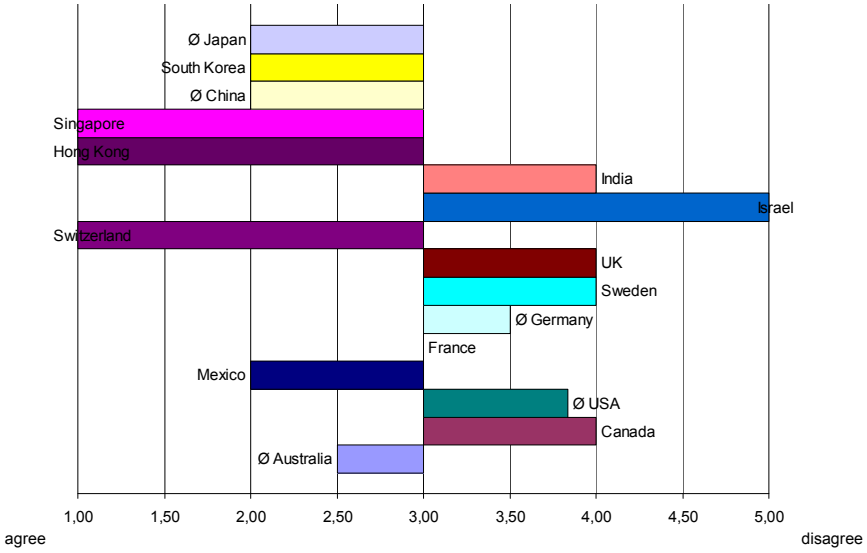


Figure 11.53: The interaction-style can be defined as rather cautious and shy

Comments:

- rather shy interaction reported in Singapore, HK and Swiss, but also in Japan, China, Korea
- least shy interaction in Israel, followed by India, UK, Sweden and Canada
- alternative descriptions for interaction
  - Germany: “serious, helpful”
  - Canada: “fairly open”

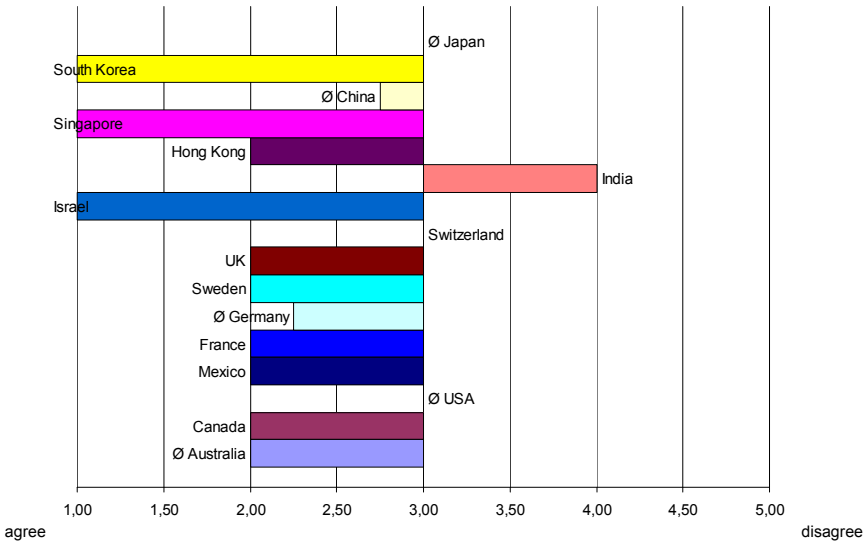


Figure 11.54: Interaction is driven with the aim of success

Comments:

- In almost all cases the aim of success is supported
- however less for Japan, China, Switzerland and the US and even rejected for India
- alternative descriptions for interaction
  - China: “to cover their butts”

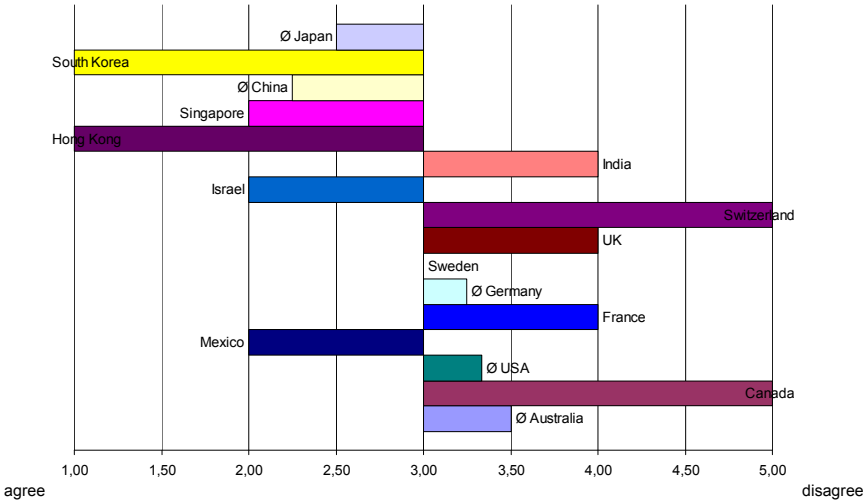


Figure 11.55: ‘Failed’ interaction is considered as a shame

Comments:

- strong supported for Korea and HK, followed by Singapore, Israel, Mexico, China and Japan
- rejection for Swiss and Canada; also not supported for India, UK and France
- interesting: rather mediocre results for Germany and USA

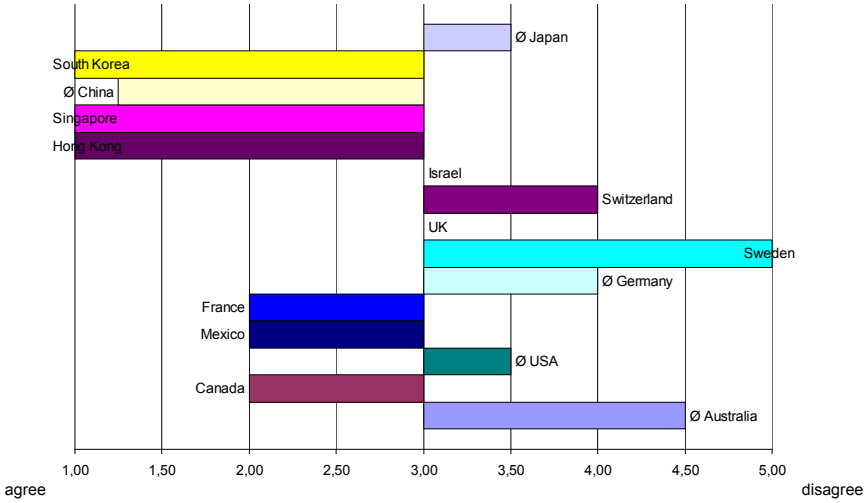


Figure 11.56: User has difficulties speaking out aloud what s/he is thinking

Comments:

- strong problems with thinking aloud reported for Korea, Singapore, HK and China
- also problematic for France, Mexico and Canda
- no Problem for Sweden, Australia, Germany and Switzerland
- not that unproblematic for USA and Japan

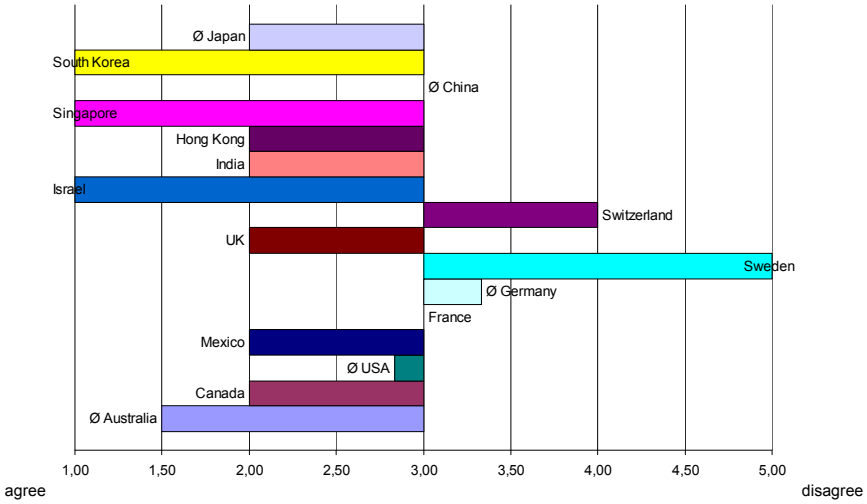


Figure 11.57: Individual enjoys 'playing around' with the system to discover its functions

Comments:

- playful discovery of system reported for almost all countries; particularly for SK, Singapore and Israel
- interesting: no strong support for China and France and even slight rejection for Germany
- strong disagreement for Sweden

Person-Observer/Moderator Interaction

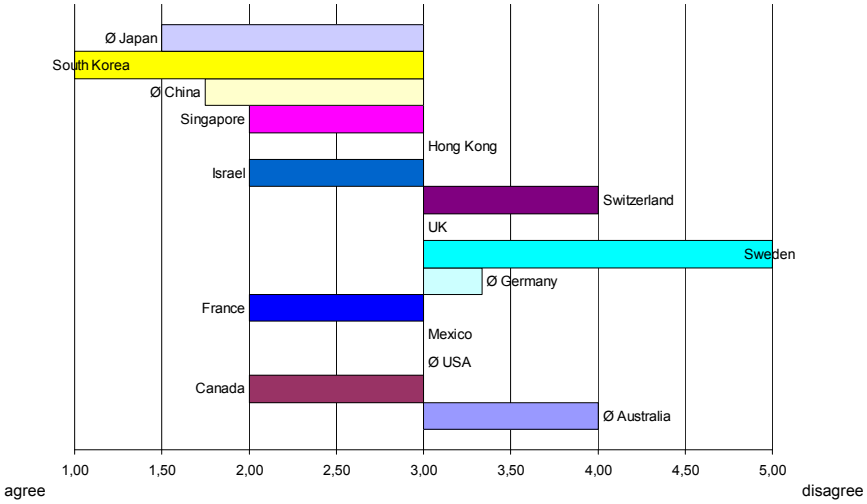


Figure 11.58: Individuals feel more comfortable when observer is from the same nationality

Comments:

- strong need for observer from same nationality for SK, Chin and Japan, but also for Singapore, Israel and France [Comment: language problem vs. national self-perception?]
- no support for Sweden, Switzerland and Australia
- only slight rejection for Germany

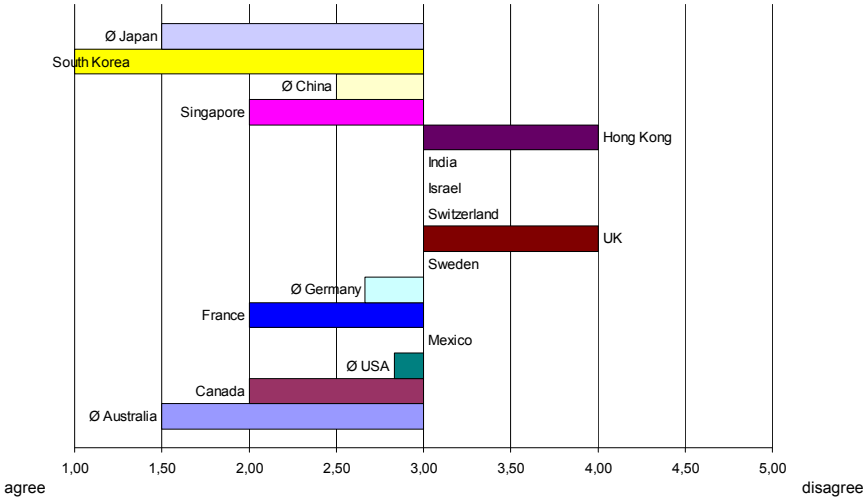


Figure 11.59: The individual tries to impress/satisfy the observer

Comments:

- rather strong support for confirmation bias for Japan, SK and Australia
- mediocre support for Germany, Swiss, Sweden, India and Israel
- rather rejected for UK and HK

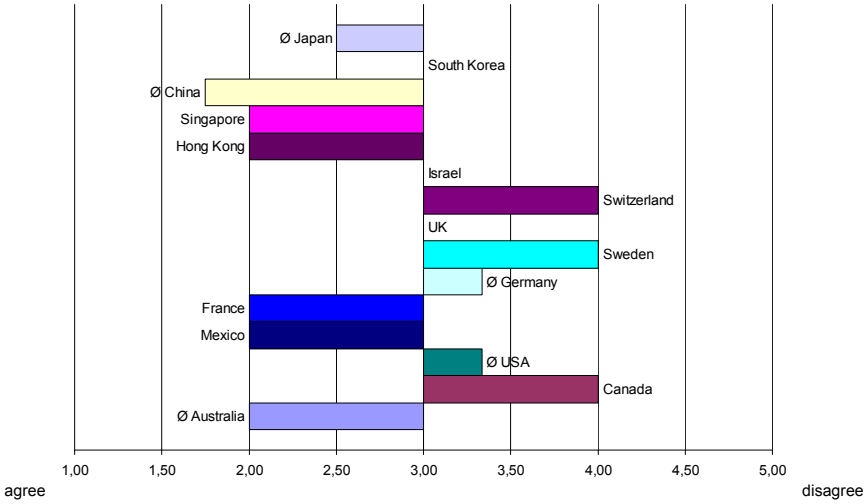


Figure 11.60: Extreme findings are rather harmonized by the individual

Comments:

- extreme findings rather harmonized for China, Singapore, HK, France, Mexico and Australia, also for Japan
- rather no harmonization of extreme findings for Swiss, Sweden and Canada
- rather mediocre results for Germany and USA

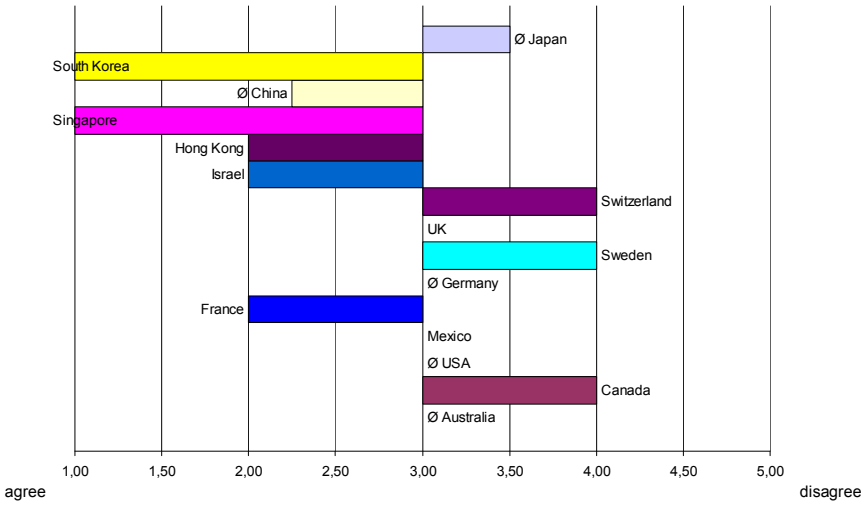


Figure 11.61: Individual seems to have significant difficulties communicating their thoughts in a structured and organized manner

Comments:

- thinking aloud problematic for SK and Singapore; also only limited applicable for HK, Israel, France and China
- least problems reported for Switzerland, Sweden and Canada, followed by Japan
- mediocre results regarding applicability of thinking aloud for Australia, USA, Germany Mexico and UK

Group Methods

Group-Internal Interaction

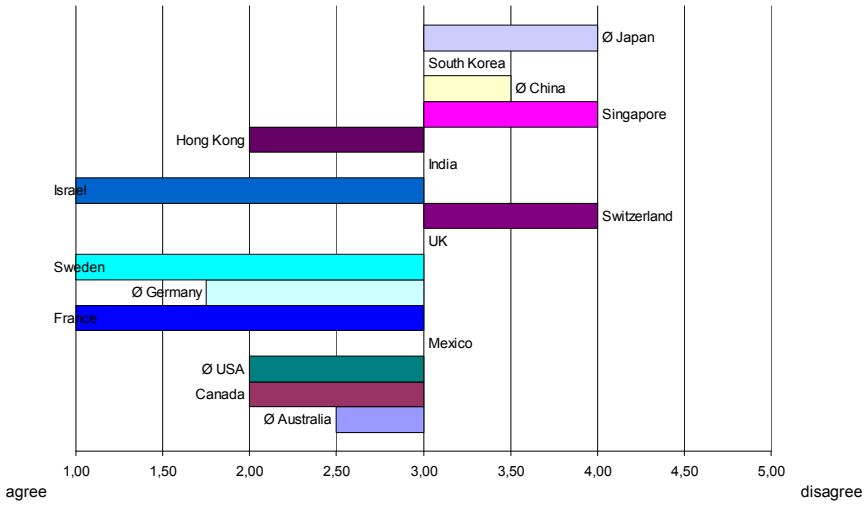


Figure 11.62: Disagreements within the group are openly discussed

Comments:

- no open discussion of disagreements for Japan, Switzerland, Singapore and China
- strong support for open discussion of occurring problems for Sweden, Israel and France, followed by Germany
- mediocre results for UK and India

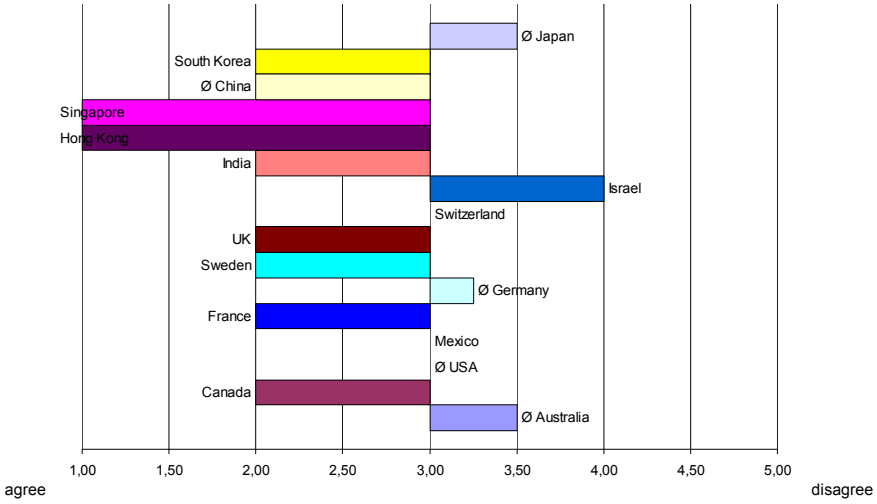


Figure 11.63 In case of a disagreement a middle way is pursued instead of favoring one alternative over the other

Comments:

- tendency towards agreement supported for most countries, particularly fir Singapore and HK

- rather over-ruling tendency for Israel, also slight support for Japan, Australia, Japan and Germany

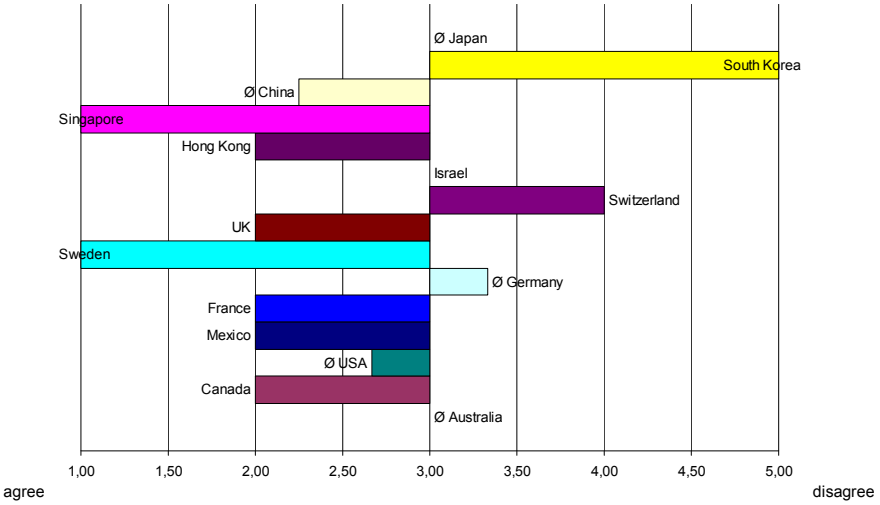


Figure 11.64 Fun and joy in group-work seem to be most essential to achieve valuable results

Comments:

- fun and joy most essential for Singapore and Sweden, but supported for almost all countries
- rejected for SK (! ATTENTION: One result; strongly biased, OPPOSED to statements in conducted expert-interviews); also slight rejection for Switzerland

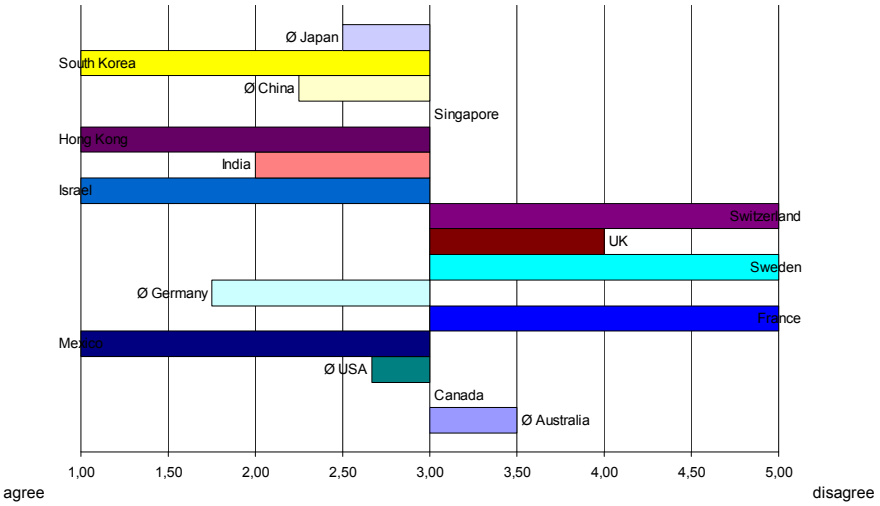


Figure 11.65: Other results are achieved when all members of the group are from the same gender

Comments:

- strong effect of Gender differences reported for SK, HK, Israel and Mexico, followed by Germany

- also effect confirmed for India, China and Japan
- no effect reported for Switzerland, Sweden and France

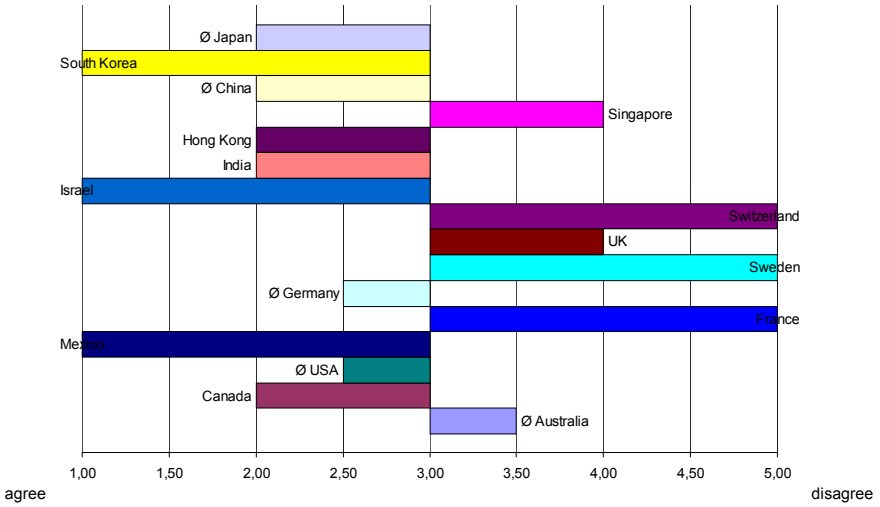


Figure 11.66: Other results are achieved when all members of the group are from the same hierarchical level

Comments:

- strong effect for SK, Israel and Mexico, followed by Japan, China, HK, India and Canada
- No effects reported for France, Sweden and Swiss, followed by UK and Singapore

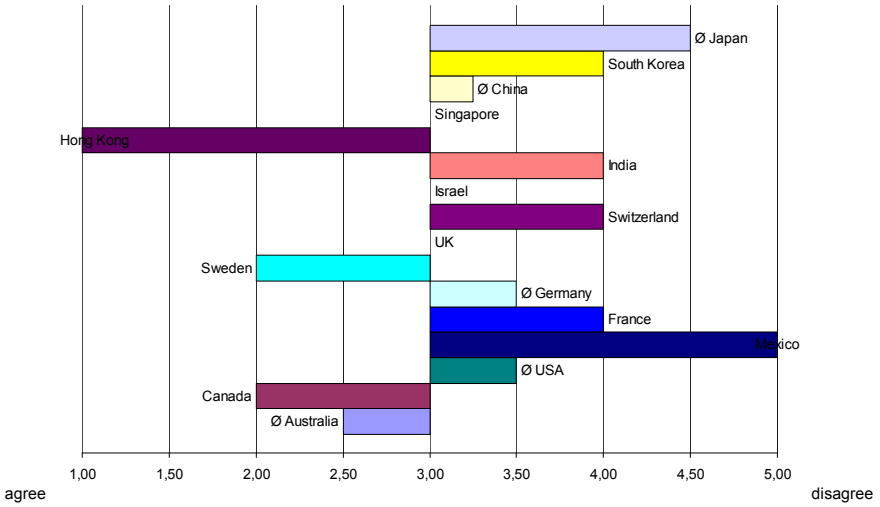


Figure 11.67: Power is evenly distributed within the group

Comments:

- In most cases power-distribution (pd) not even
- most uneven pd reported for Mexico, followed by Japan, SK, India, Swiss and France
- most even pd reported for HK [Comment: probably question misunderstood ?]

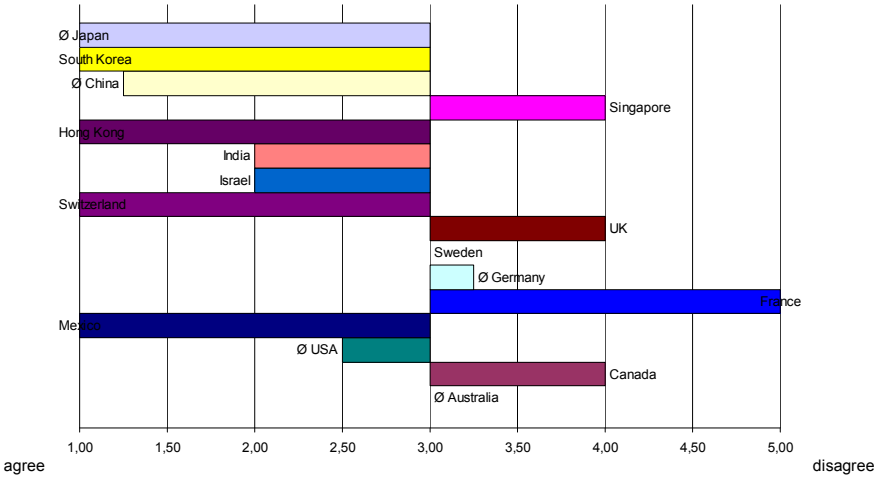


Figure 11.68: Hierarchy determines power-distribution

Comments:

- power-distribution mainly influence by hierarchy for Japan, SK, HK, Swiss, China and Mexico
- rejection for France, followed by UK, Canada and Singapore, also Germany
- alternative influence on pd
  - Canada: expert knowledge
  - Germany: competence
  - India. hierarchy AND expertise

Group-System Interaction

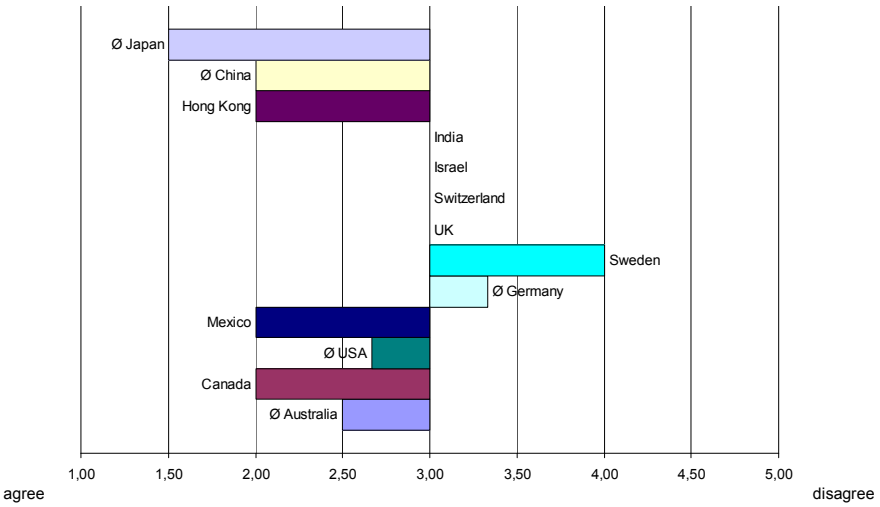


Figure 11.69: One outstanding individual is mainly interacting with the system, the other refrain from interaction

Comments:

- especially in Japan not all group-members seem to interact with the system, followed by China and HK
- most widely distributed interaction reported for Sweden

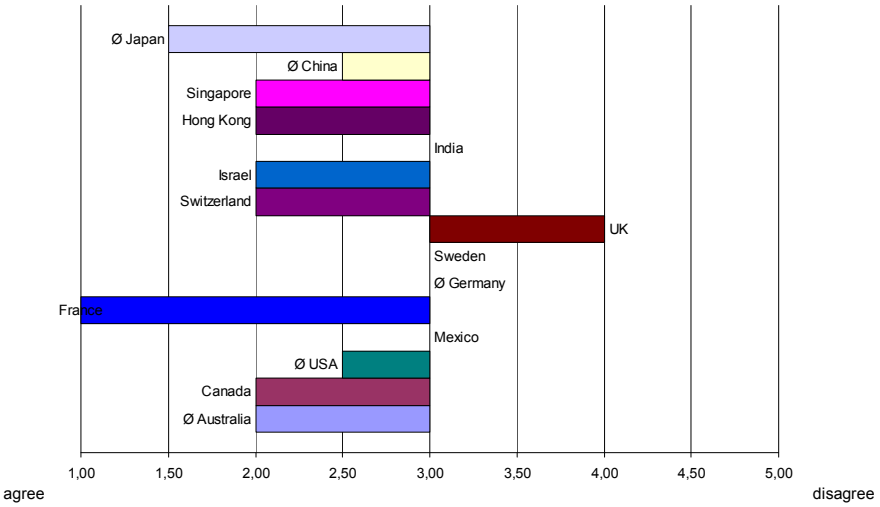


Figure 11.70: Skill determines who is interacting with the system

Comments:

- in almost all countries skill determines who is interacting with the system, particularly in France and Japan

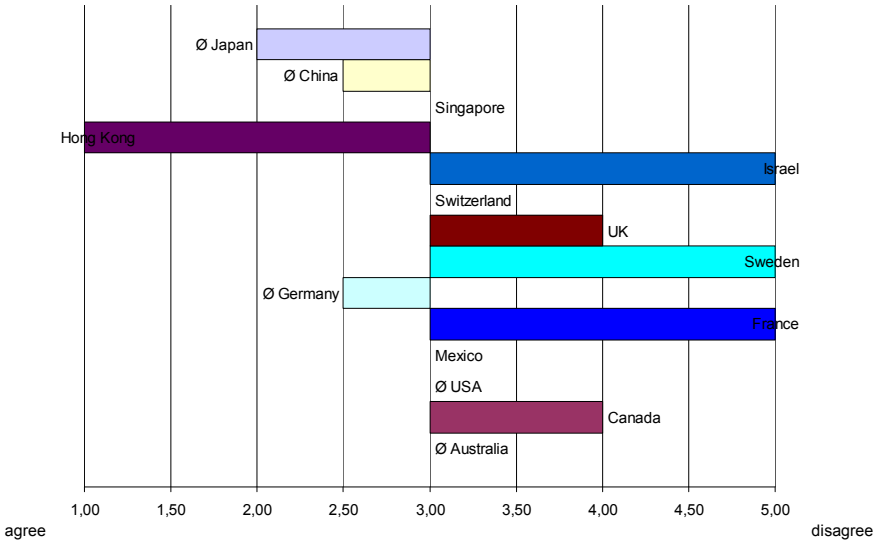


Figure 11.71: The interaction-style can be defined as rather cautious and shy

Comments

- interaction usually not reported as cautious and shy, particularly reported for Israel, Sweden and France
- rather shy interaction reported for Japan and China, but also for Germany

- strongest support for HK
- alternative description of interaction
- Canada: fairly open

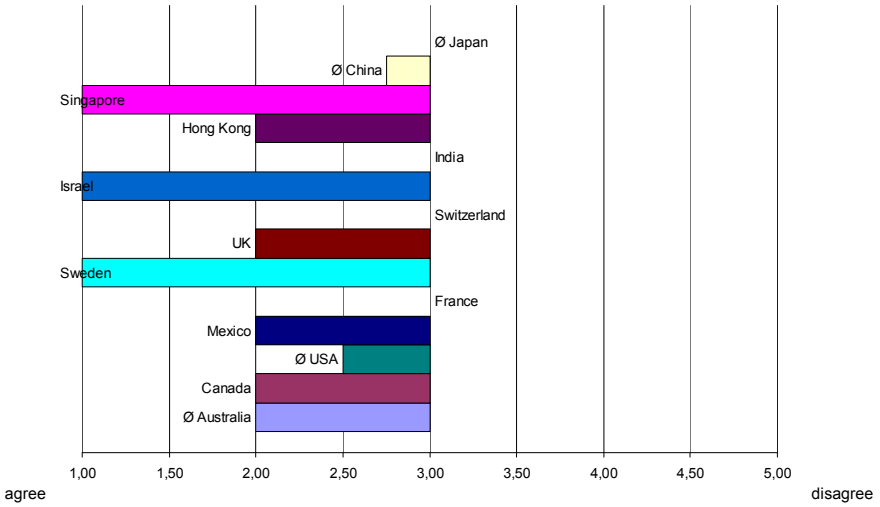


Figure 11.72: The group enjoys 'playing around' with the system to discover its functions

Comments:

- discovery of system by playing around with system supported for all countries
- not rejected by any

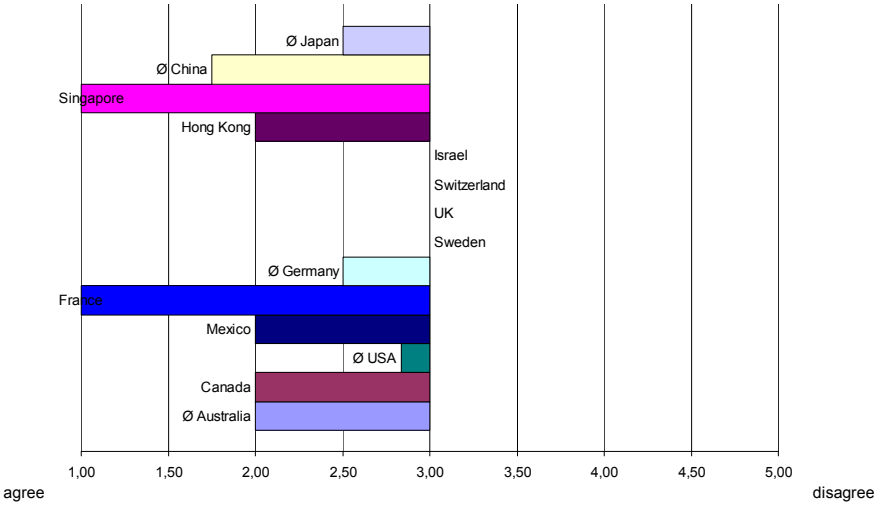


Figure 11.73: Time constraints significantly reduce successful interaction

Comments:

- effects of time constraints not rejected for any country
- strongest negative effect reported for Singapore and France followed by China, HK etc.

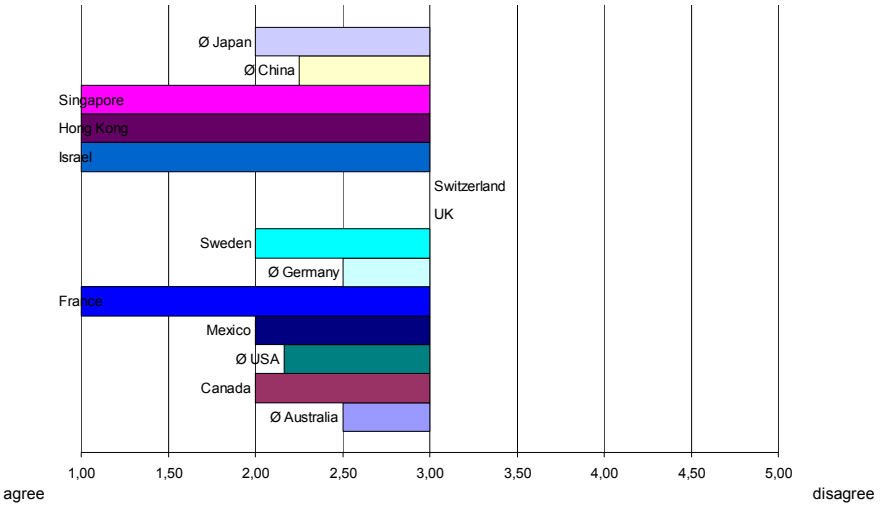


Figure 11.74: Interaction is driven with the aim of success

Comments:

- aim of success supported by all respondents
- particularly for Singapore, HK, Israel and France, followed by Japan, etc.

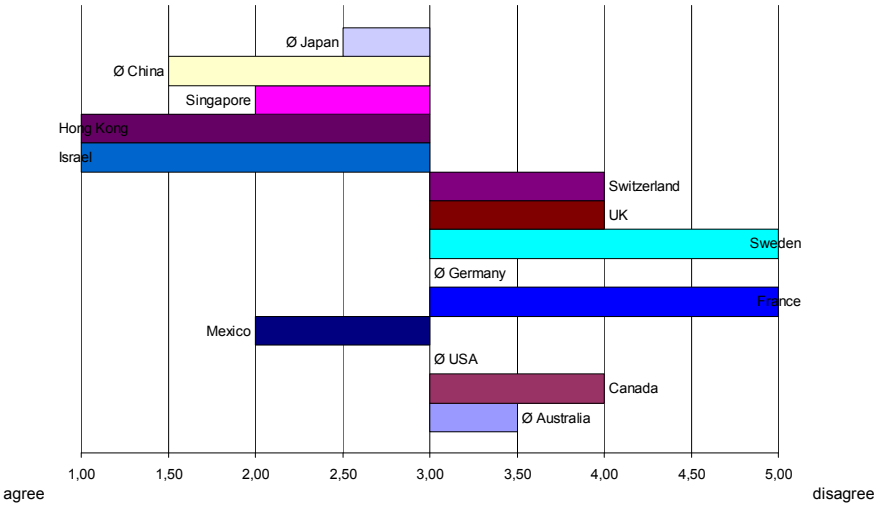


Figure 11.75'Failed' interaction is considered as a shame

Comments:

- failed interaction considered as shame supported for HK and Israel, but also for China, Singapore and Japan
- shame-perception failure rejected for Sweden and France, followed by Swiss, UK and Canada

Group-Observer/Moderator Interaction

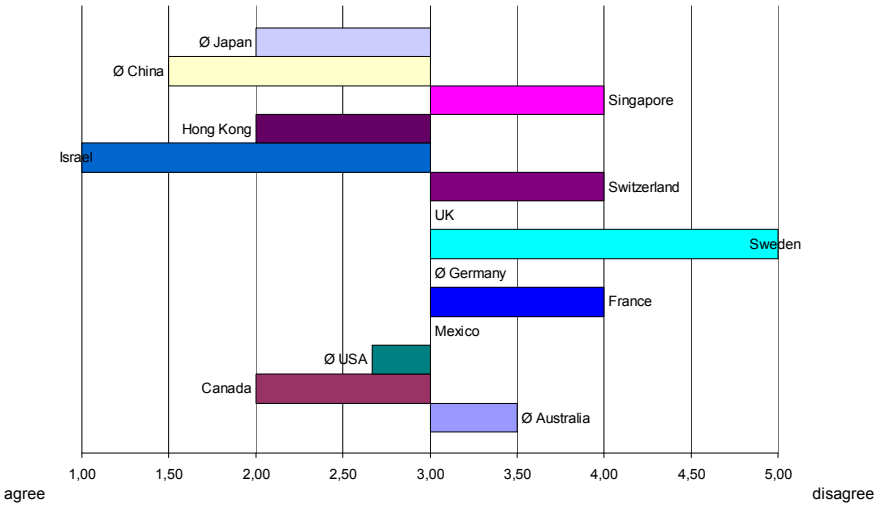


Figure 11.76: Group members feel more comfortable when observer is from the same nationality

Comments:

- same-nationality-effect supported for Israel, China, Japan and HK
- rejected for Sweden and rather rejected for Singapore, Switzerland and France (as opposed to responses in Single Person Methods)

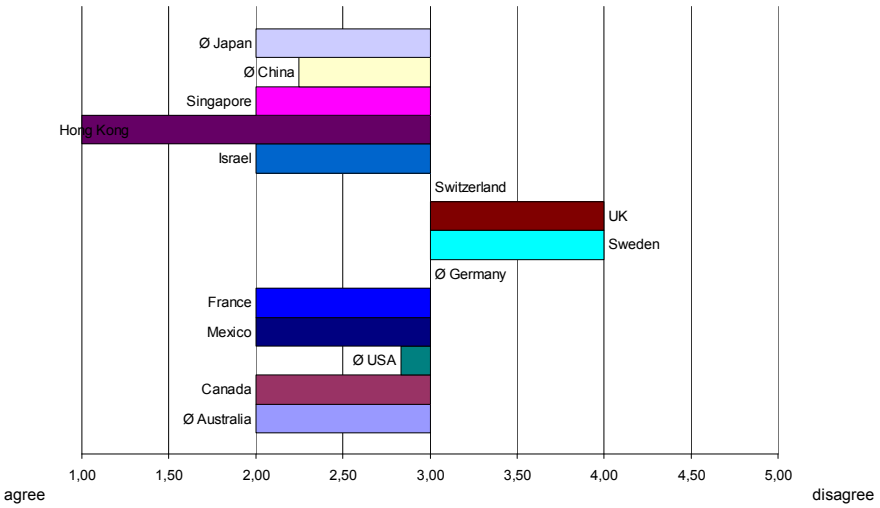


Figure 11.77: Group members try to impress/satisfy the observer

Comments:

- confirmation bias supported for HK, followed by Japan, Singapore, France etc. and China
- rejected for UK and Sweden

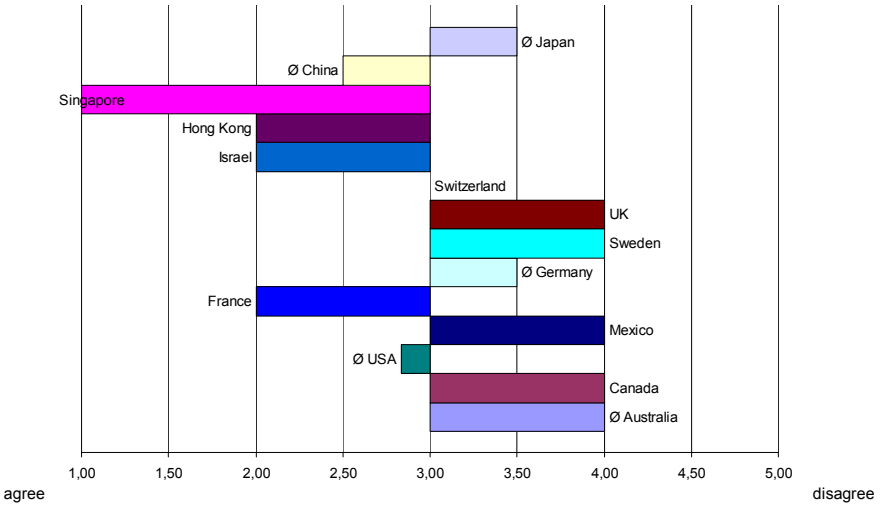


Figure 11.78: Group members seem to have significant difficulties communicating their thoughts in a structured and organized manner

Comments:

- problems communicating thoughts rather supported for Singapore, HK, Israel and France, followed by China
- rather rejected for Australia, Canada, etc. followed by Japan and Germany

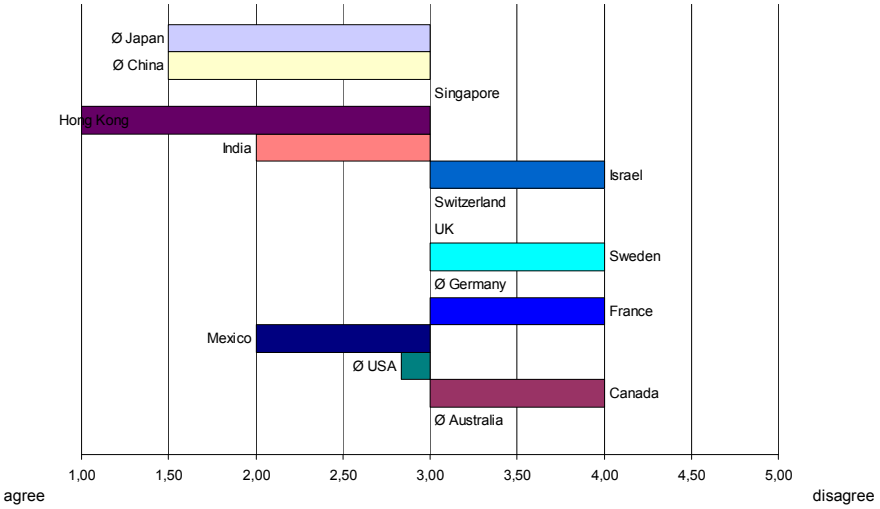


Figure 11.79: Hierarchy and power-distribution seem to filter true criticism and findings of group members

Comments:

- true criticism filtered by pd and hierarchy in HK, Japan and China
- no filter-effects reported for Israel, Sweden, France and Canada

11.4.2.4 Context Considerations

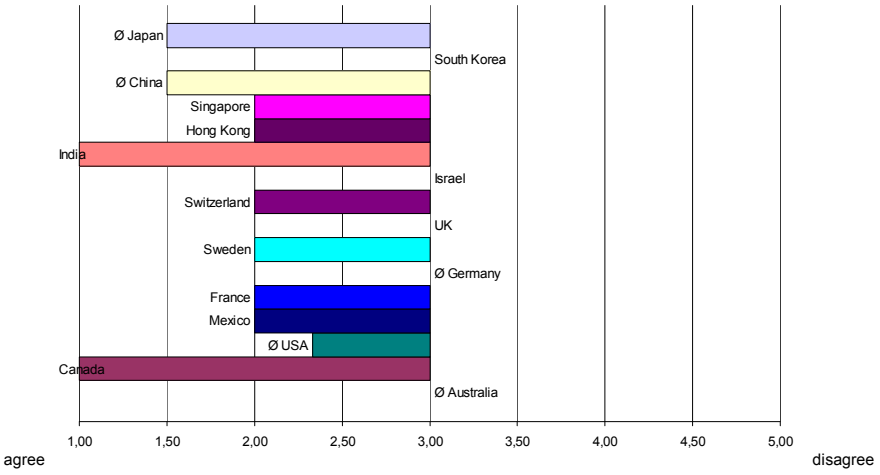


Figure 11.80: Warm-up sessions to get to know each other are absolutely necessary to receive trustworthy results

Comments:

- warm-up sessions absolutely necessary in most countries
- only mediocre support for Germany, UK, Israel and SK

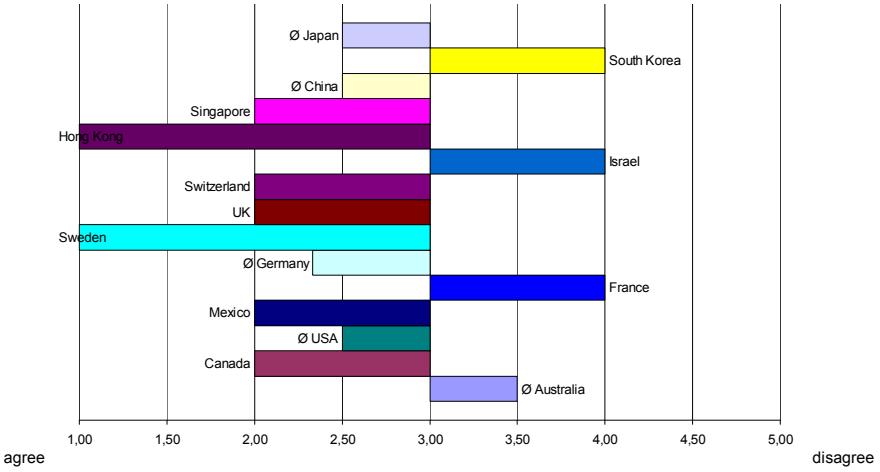


Figure 11.81: Humour and Joy-of-Testing can be considered as a prerequisite for success

Comments:

- also humour and joy of testing acknowledged as success-factors by most respondants
- rather rejected for SK [Comment: AGAINST expert's opinion, probably biased], Israel and France

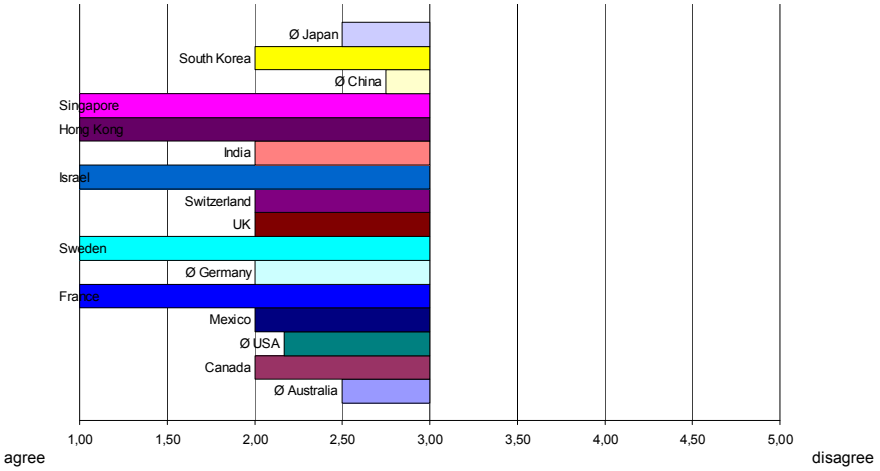


Figure 11.82: To meet the participants on an equal footing can be considered as a prerequisite for success

Comments:

- need for equality acknowledge by all respondents
- weakest agreement for China and Japan

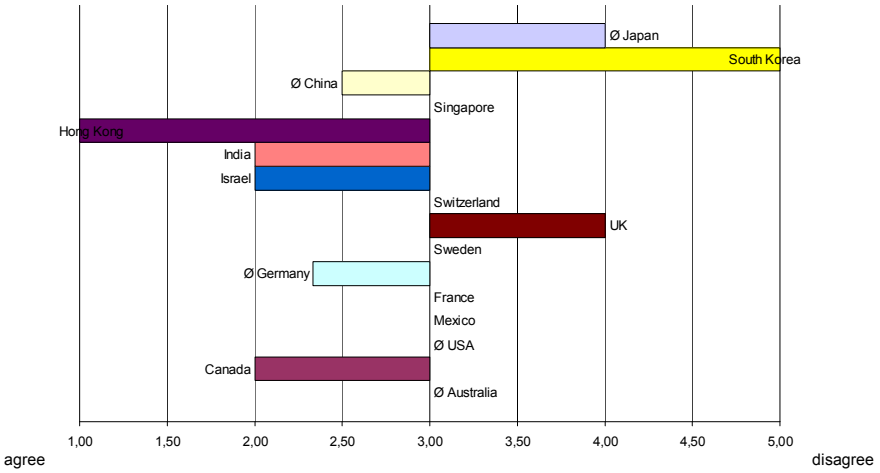


Figure 11.83: Participants tend to contradictory statements and conclusions from the Western perspective

Comments:

- no contradictory statements reported for SK and Japan
- agreed for HK, India and Israel, but also for Canada, Germany and China

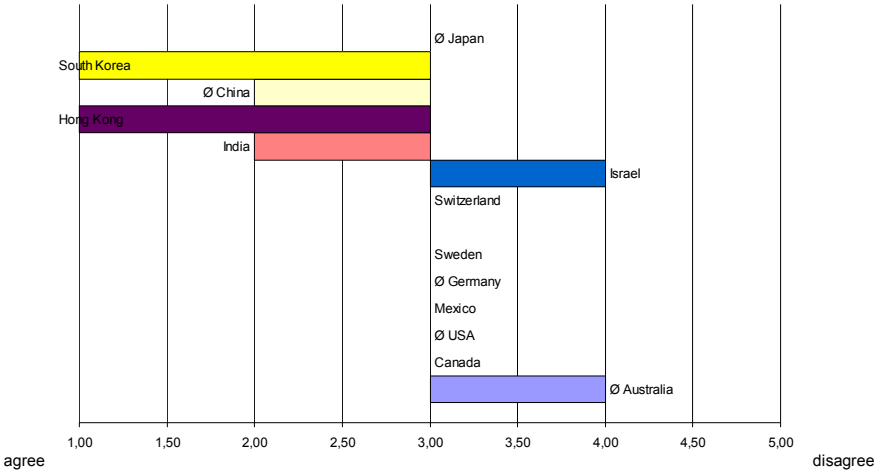


Figure 11.84: From the Eastern perspective these contradictions are required to maintain harmony

Table 11.8: Top three to five companies in terms of usability engineering

Country	Rank 1	Rank 2	Rank 3	Rank 4	Rank 5
Australia	○ Virgine Mobile (phone)	○ Boeing Aerospace	○ Mincom Software	○ Vodafone	○ Optus
France	○ NOKIA	○ APPLE	○ Bouygue	○ American Express	○ Auchan
Germany	○ BMW ○ Harman Becker	○ Frauenhofer Institute ○ Audi	○ Ergosign		
Japan	○ Ricoh	○ Canon	○ Panasonic	○ Oki	○ Sony
Singapore	○ Singapore airport	○ Singapore transportation (Underground)	○ Singapore taxi	○ HSB	○ Condominium
South Korea	○ Samsung				
USA	○ Apple ○ Oracle ○ aaron marcus and associates ○ Microsoft	○ United Airlines ○ Dell ○ hfi ○ HP	○ Microsoft ○ IBM ○ tech ed ○ Intel	○ Microsoft	○ Sun Microsystems

11.4.2.5 Experts' Opinions

What are the major challenging problems in cross-cultural product development not mentioned here?

- Thinking in national boundaries only instead of changing the frame of reference to more important characterstics.
- Determining the underlying variables as to why a user will trust a product, find it satisfying, and use it again in the future.
- Lack of knowledje, data base, lack of tools
- buy in from top management. educating top management

What are your suggestions for further research in cross-cultural product development?

- Relationship with the ethnic mentality
- Data bases, tools
- Harmonizing the vocabulary, finding a way to bridge the gaps in communication
- what culture models are best? which dimensions are best? how do culture dimensions influence user-interface components.

What do your expect from future analysis/evaluation-methods?

- I am a cross-cultural researcher, not a usability expert. Therefore I have had difficulty answering many of the questions - although I did try. For example, I am not familiar with the term "UELC" and others, as used in the survey. In any case, best of luck with the research!
- A true help to the concept step
- guidelines patterns solid data relations

11.5 Appendix C

11.5.1 Interviews

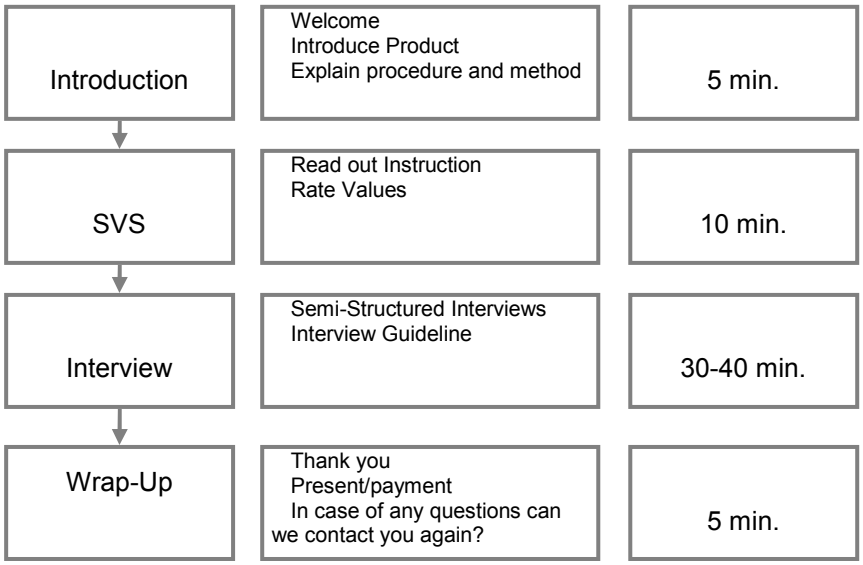
Logistics:

- single-person
- time: 60min
- # participants: 10

Introduction

Structured interviews are to be executed with prospective users in regard of above mentioned research objectives. To minimize culture-related interviewer effects interviews are to be conducted by the Chinese Researcher.

Application



Interview Guideline

- About the user
  - Do you have a PC?
  - What do you use your PC for?
  - Do you have a MP3-Player?
  - Do you have a mobile?
  - How often do you use the internet?
  - What do you use the internet mainly for?
  - Do you shop online?
  - Do you buy digital media online?
  - Where do you shop online?
  - What do you shop online?
  - How was your buying experience?
  - When you buy something, how long are you willing to wait till you get it? E.g. how long would you wait for an ebay/??? auction?
  - Do you do file-sharing?
  - What files do you share?

- Do you rather buy DM or get them through file-sharing
- Did you ever sell something online?
- What did you sell?
- Where did you sell online?
- What did you sell online?
- How was your selling experience?
- Did you ever create digital media (i.e. a movie, a song, a piece of literature, some software)

⊙ About design preferences

- What are you most favourite websites?
- Why are those your favourites?
- Which colours do you like on websites?
- What makes a website appealing to you?
- How would you arrange a website that sells all kinds of digital media (i.e. movies, music, software and literature)?
- What is for you an appealing product representation?
- Which shops do you like visiting because of their decorations?
- What do you like about their decorations?
- How do you want to have music, movies, software or literature presented?
- How do you want to have all this presented online?

⊙ About functional requirements

- What functions do you need to shop online?
- What functions do you want to see for the representation of movies, music, literature or software?
- How do you pay online?
- If you can get your own profile, how do you want to represent yourself?
- How fast is your internet-connection? Can you download movies and music fast enough that it is convenient for you?
- Do you use your mobile for payments?
- Do you use your mobile for surfing the web?

⊙ About communicational requirements

- Is the contact to the person selling the DM important for you (for your buying decision)?

- How do you want to get in contact with the seller? Chat, email, video-conference, phone? What is more important?
- How important are ratings of sellers for you as a buyer?
- How do you want to rate a seller? Just by voting on a scale, or by leaving comments on his/her website also?
- How do you build trust into the seller? Is it more the direct contact with him/her, that what peers tell you about him/her, or the rating by strangers?
- What assures you that the promises the seller gives you with the product are ensured?
- If you have the chance to join together with stranger to make a good bargain do you do it?
- Would you do it via the internet through something like interest-groups?
- Would you rather ask your friends to team up as a group?
- How would you build such a group?
- Would you join an already existing group?
- How would you communicate within the group? Email, chat, phone, video? Woud you want a pin board where you can leave messages?
- Is it important for you to be able to communicate with the service-provider? How would you communicate with him/her?
- Would you just need a help-desk, or make use of something like a suggestion-box?

- About informational requirements
  - What payment method would you use to buy online?
  - Would it be fun for you to have some statistics, such as best/worst selling product or the person spending the most money on the website?
  - What information do you want to have about the seller of DM? What should be the scope of the seller's profile?
  - How important would be recommendations regarding the seller from friends for you buying decision?
  - Would you need to know the sellers sales history and other users' comments on that?
  - What would be the scope of information you probably need to by movies, music, literature, or software online?
  - If you were selling something, what information would you be willing to give to the buyer?
  - What information do you want to know about other buyers?
  - If buying is done as a group, what information you need to know about the collection, other group-members, the time of sales, etc.?

11.5.2 Puzzle Interviews

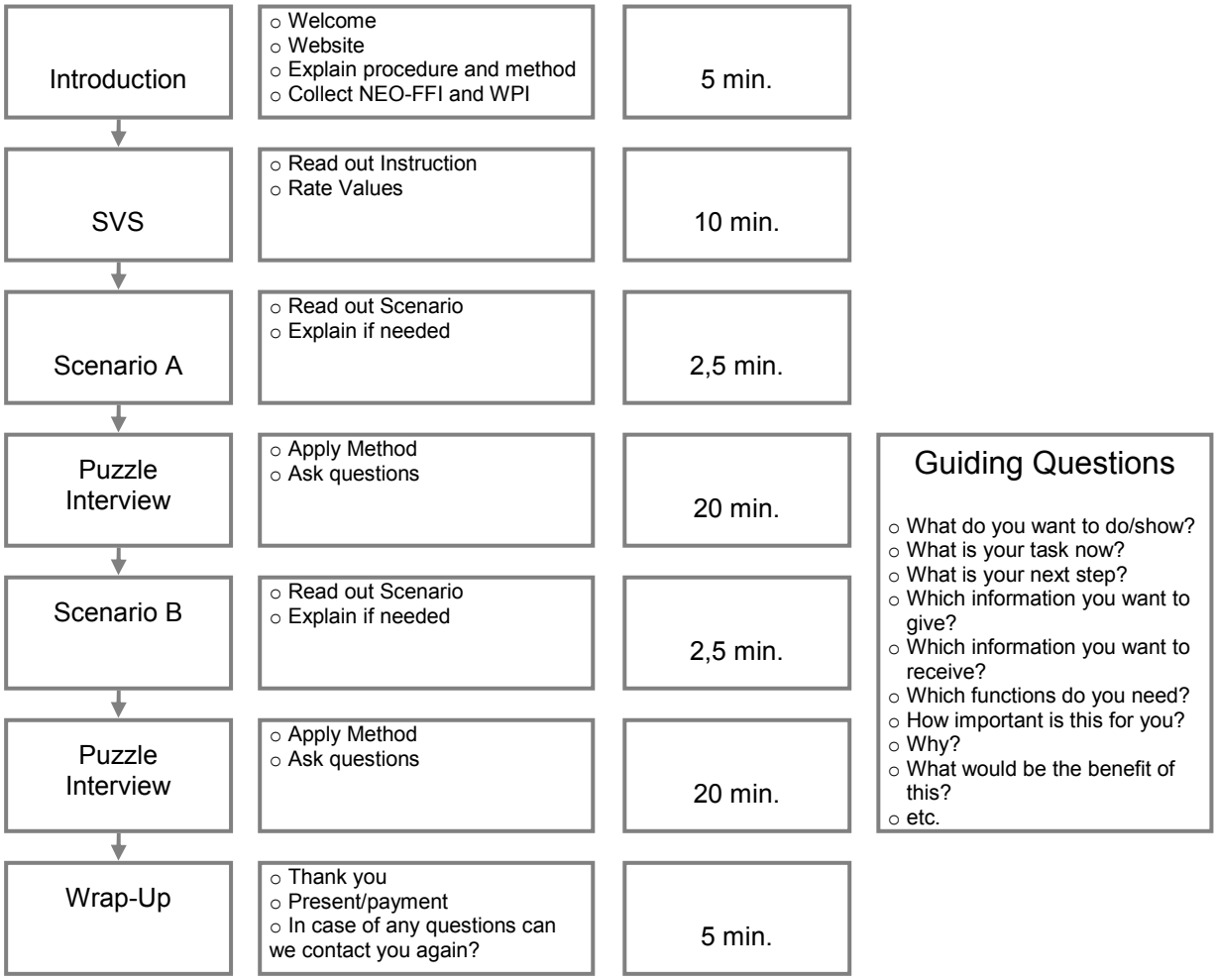
Logistics

- single-person
- time: 60-90 min
- # participants: 10
- # cards = 20

Introduction

The puzzle interview is based on the idea of supporting the user in selecting preferred product attributes by visualizing these attributes in terms of cards. These cards should help overcoming the problem of linking specific product properties to expected usability and utility issues. Objectives are, first to make difficult-to-understand issues more tangible for the user, second help him/her remembering issues, third to allow grasping the whole picture easier and to help arranging and grouping as basis of reasoning. All this shall be achieved by reducing the abstraction level of product features on one hand and enhancing the playfulness of methods application on the other through the application of cards. Cards can generally be subdivided into three categories: features (e.g. product representation), interface components (e.g. sizes of video-streams) and average length of sequence (e.g. number of clicks of a task). The following list gives an overview of possible cards.

Application



Scenarios

Buyer [Downloader]

Scenario A

You just met a friend who told you about this new website to download music, videos, literature and software completely legal to any price you want to. S/he said that you can just type in any price you want to pay for any given product and then can download and share it with your friends as much as you want to. It's completely legal!

This website also let's you stay in touch with friends and allows you to build communities and interest groups. Your friend for incidence is a big fan of Boa and just started his own community. His/her community is growing steadily and they are sharing a lot of Boa's famous hits.

Your friend already sent you an invitation to this website to your email and you now go to an internet-café, the dormitory or home (wherever you have access to the internet) to create your profile. You are aware that you profile is a very important mean to representing yourself. Based on your profile people with similar interests like you have can find you and you can eventually start your own communities to share more movies, songs, software or even books! So you want this profile to really represent YOU.

How do you do this and which functions are most important to you to get the world to know you?

Scenario B

You have signed up and created your profile to this new website to download music, videos, literature and software completely legal to any price you want to just two weeks ago. After class in the cantina a friend tells you about this new song of a fairly unknown local band called XY, which he saw on the beer-festival. S/he really seems to love this band and is desperate to get some of their songs!

It's his/her birthday next week and you don't have a present yet. To get a song from this band would be just the perfect present you think. Right after lunch you go home, to the dorm, internet-café or any other place from where you can access the internet. You know as you are a member of this new website you can just download any song you want to legally, to any price you are willing to pay and with really high quality.

You log in to this website and now are searching for this band. After you found them you decide that you want to download three songs for your friend. However, there are much more than just three songs of this band, but you just want the best ones. After deciding about the three songs you want to get you decide how much you are willing to pay, make the payment and download them.

How do you do this and which functions are most important to you?

Seller [Uploader]

Scenario A

In your free-time you really enjoy [programming small but really useful software], [writing poems and books], [playing in this band that is getting more and more successful – at leas locally many people enjoy your concerts] or [gathering with friends to create underground movies – you started small but are getting more and more attention]. You feel that you are on the edge to become quite successful with what you do, but unfortunately you cannot find a company, producer, publisher or record-label that is willing to support you.

You are meeting a friend for dinner and tell him about the problem you have: That you feel you are going into the right direction, but are lacking the money and support that is needed to become widely known. Your friend tells you that he heard about someone who had similar problems like you are having now. But s/he found this website that allows you to upload your work. You can even earn money from asking a gross-amount from the whole community. If you find enough people who like your work you can easily collect enough money to move on and become more successful. Like this, the person your friend knows became really famous. Many people are visiting that website and quite a lot are willing to pay some money to the artists/developers.

Your friend tells you that this website also allows you to connect to many people, fans as well as other artists/developers. You think that's a really great idea and decide to become a member at this website right when you come home – only then you can upload your demo-files.

Right after dinner you go home, to the dormitory, an internet-café, or wherever you can access the internet. You sign up at this website and start to create you profile. You are aware that his profile is

really important to you as this is the basis on which other people – fans as well as other artists – can find you and especially your work. So you want it really representing you and what you stand in for!

How do you do this and which functions are most important to you to get the world to know you?

Scenario B

You have signed up and created your profile on this new website a while ago already. Now you just finished your new software/song/movie/book and want to upload it to the website for other users to download. You know that more people are keen on your product that more they will pay you back in reward. Remember they can pay any price they want to, so they will probably only pay you if they are really keen to reward you for the work you have done.

How you represent your work therefor strongly affects the revenue you can expect. What functions are important to you to show to the user? How do you upload and represent your product?

Cards

- Scenario A Cards
  - Name
  - Age
  - Address
  - Gender
  - Hobbies
  - Favourites
    - Music
    - Film
    - Software
    - Literature
  - Special Interests
  - Own Picture
  - Picture-Album
  - Avatar
  - Background Music
  - Jukebox
  - Friends list
  - Pinboard
  - Personalisation
    - colours
    - fonts
    - layout
  - Email
    - inbox
    - forward to other mail-address
  - groups/communities
  - chat
  - Own line/motto
  - Ratings
    - coolness
    - kindness
    - trustworthiness
    - helpfulness
    - popularity
    - etc.

- Recommendation
- Invite a friend
- Build a Group/Community

- Scenario B Cards
  - search
  - sort list
  - Ratings
    - qualitative
    - quantitative
    - of product
    - of seller
  - shopping info
    - number of downloads
    - collection/price recommendation
    - payment methods
  - product representation
    - flash/media player
    - software demo
    - reading
  - Recommendations
    - top performers
    - best rated
    - most downloaded
    - highest/lowest collection
    - most expensive
  - Groups/Communities of supporters
  - Seller information
    - Name
    - Background
    - Ratings
    - Interests
    - Favourites
  - Download
    - Internet-speed
    - Download connections
    - Download time

References

[Säd98] Säde, S./Keinonen, T./Soosalu, M. (1998): Puzzle Interview. Visual support for user involvement. Working Paper, University of Art and Design Helsinki UIAH, F2, Helsinki: p. 22-29.

[Vat06] Vatrapu, R./Pérez-Quinones, M. A. (2006): Culture and usability evaluation. The effects of culture in structured interviews. In: Journal of Usability Studies, Vol. 1, No. 4, p. 156-170.

11.5.3 Cultural Probes

Logistics

- single-person
- time:

  - intro-session: 10 min
  - in the field: ~ 1 week
  - wrap-up-session: 30-40 min
- # participants: 10

Introduction

Cultural probes build in the idea that the user actively supports the analysis of his/her living environment through visual documentation of artefacts, situations and people that are relevant for a certain issue from his/her perspective. The general topic as basis for data-gathering is preset and presented to the participants prior to getting out into the field.

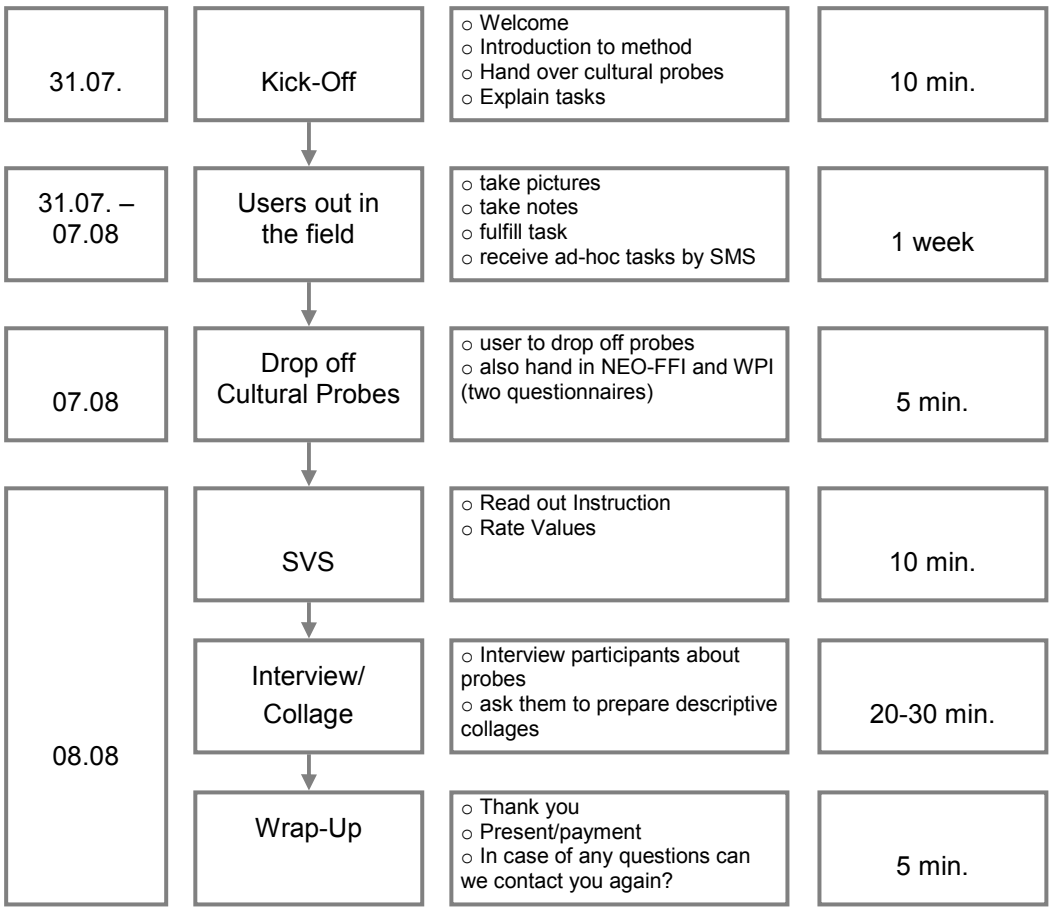
Data-collection done by the user by documenting everyday situations by camera which later are presented to the researcher. The timeframe of data collection usually is limited to a couple of days, but can vary significantly depending on research topic. That means that during data gathering and documentation the investigator is not in direct contact with the user. In some cases, however, the researcher might interact with the user at certain times by phone, SMS or mail (e.g. to ask him/her taking pictures at a certain moment in time).

After data-collection the results are to be presented by the participants to the researcher in a descriptive manner (e.g. a collage).

For the research on hand the time-frame for data-collection shall be limited to one week. Besides visual documentation with one-way cameras users will be asked to take notes of relevant events in a diary. Before sending participants back into the field a kick-off meeting will be conducted during which the general research topic will be introduced to them and cultural probe packages will be handed out. Hence, general tasks will be given to the user he/she needs to fulfil during the time of data gathering will be presented to the user.

To keep participants engaged as well as to enhance the fun-level of this method users will be given ad-hoc tasks they need to fulfil once a day. After the phase of data-collection in the field, user will asked to refurbish their findings in descriptive way in a collage.

Application



Tasks

General Task: Please show us what role media plays in your life. How when and were do you read online, do you listen to music with your computer of MP3-Player, do you watch movies on DVD or download them, do you use and download software and computer games. Also, please show us how and where you share this digital media (i.e. software, songs, movies, literature) with your friends or other communities, eventually online.

You are equipped with a camera and a notebook, so please make pictures and take notes any time you find something important to show to us.

Daily Tasks (by SMS)

Mon. 08/10/07: Are you online today? Show us where you download your music.

Tue. 09/10/07: Are you meeting some friends today? Show us which devices they use to listen to music and where they do it.

Wed. 10/10/07: Do you buy online often? Show us what and where you shop online.

Thu. 11/10/07: Show us how and where you download one song of your favourite singer. In case you use a website that charges you for downloading we will cover this.

Fri. 12/10/07: It's Friday! What are you doing tonight? Meet some friends? Listen to some music? Watch some DVD? Show us

Sat. 13/10/07: Do you share music, movies, software or literature with your friends? Show us how and where you do it.

Sun. 14/10/07: Please, come in and drop-off your cultural probe.

11.5.4 Focus Group

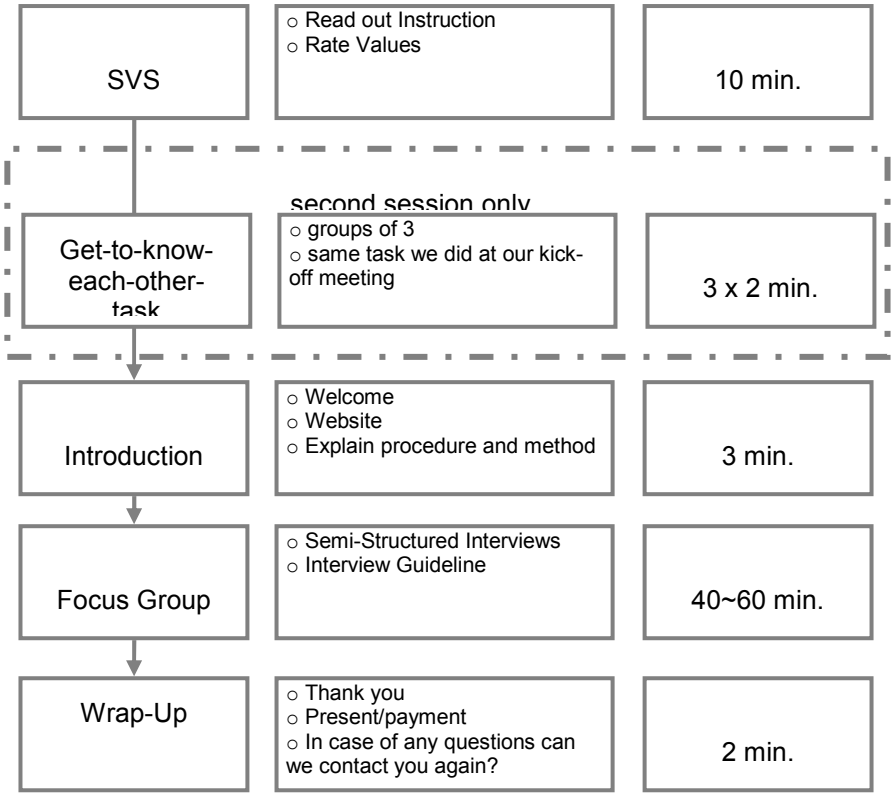
Logistics

- group
- time: 60-75 min
- # groups: 5
- # participants per group: 4-6

Introduction

A focus group is a group discussion method with preset problem-space lead by a moderator. The moderator does not take an active part in the content's discussion. He/she merely gives directions and sparks ideas to ensure research-objectives are met. He also guides the discussion and is responsible that each member contributes more or less equally to the discussion.

Application



Focus areas

Certainly this focus group's focus is on the product to be developed. The following list is intended to give an overview of areas that ought to be covered. This is NOT AN INTERVIEW-GUIDELINE! It just is to give you some ideas to schedule and organize your focus group. Just make sure that all main issues are covered.

- General Objectives (Lifestyle)
  - general use of digital media [DM]
  - general internet usage
  - online-shopping experiences
  - perception of intellectual property [IP] and sharing of DM in an information society
  - willingness to share IP (artists, programmers, etc. in particular
  - willingness to wait between vote/payment and product delivery
  - technology perception/use/endorsement
- Design Preferences
  - most favourite websites
    - shopping
    - chatting
    - sharing
  - designs
    - colours
    - styles
    - animations
    - layouts
  - appealing product representations
    - shops/malls
    - market
    - internet
    - home-shopping
- Functional Requirements
  - own person presentation
  - product presentation
  - internet-speed
  - payment methods
  - mobile internet
- Communicational Requirements
  - communication with other buyers
    - communication media (chat, phone, video)
    - networks with friends
    - community building
    - scope of communication (product/function-centred or SNS)
  - communication with seller
    - communication media (chat, phone, video)
    - quality-ratings (qualitative/quantitative (example of ebay))
    - trust-building (how?); validation of promised product traits
  - with the online-service
    - report of IP-violations
    - service-quality
    - suggestions
    - help-desk
- Informational Requirements
  - general
    - payment methods
    - download options
    - statistics (e.g. performing products, seller/buyer activities)
    - related friends/communities

- seller related
  - scope of seller-profile (trust-building)
  - recommendations
  - sales history
  - rating (scope, qualitative/quantitative)
  - connections to other sellers/buyers
- buyer related
  - scope of buyer-profile (community-building)
  - recommendations
  - activity
  - connection to other buyers/sellers
- product related
  - scope of product representation
  - ratings/recommendations (scope, qualitative/quantitative)
  - supporting community
  - seller
  - time to market
  - price
  - collection-level

11.5.5 Anecdote Circle

Logistics

- group
- time: 60-90 min
- # groups: 5
- # participants per group: 4-6

Introduction

An anecdote circle basically is nothing but storytelling within a group. Participants, if possible from the same peer or cohort, speak freely about their experiences made regarding a guiding and introductory research questions. However these questions are only posed at the beginning of the session by the researcher in order to get the storytelling started. The whole approach builds on the free and unforced participation of the group members in any way they think is appropriate. Opposed to a focus group the objectives of anecdote circles are not the participants' opinions or judgements but their experiences made wrapped in anecdotes. Furthermore, stories are told to the members of the group – to each other – and not to the researcher.

Consequently the role of the researcher, who is to be seen as merely a facilitator here, is of utmost importance. It is his/her role to initiate the storytelling process. Thereby care needs to be taken not to pose too many questions what would run the methods flow and turn it into an interview. Hence, it's his/her job to ensure that people actually speak about experiences and are telling anecdotes. Whenever someone simply states an opinion he/she needs to ask for an example. Within a perfectly running anecdote circle already participants would take care of this, e.g. by saying: "Yes, that's your opinion; but what would be an example?" [Call04b]. Hence, following rules are to be followed by the facilitator:

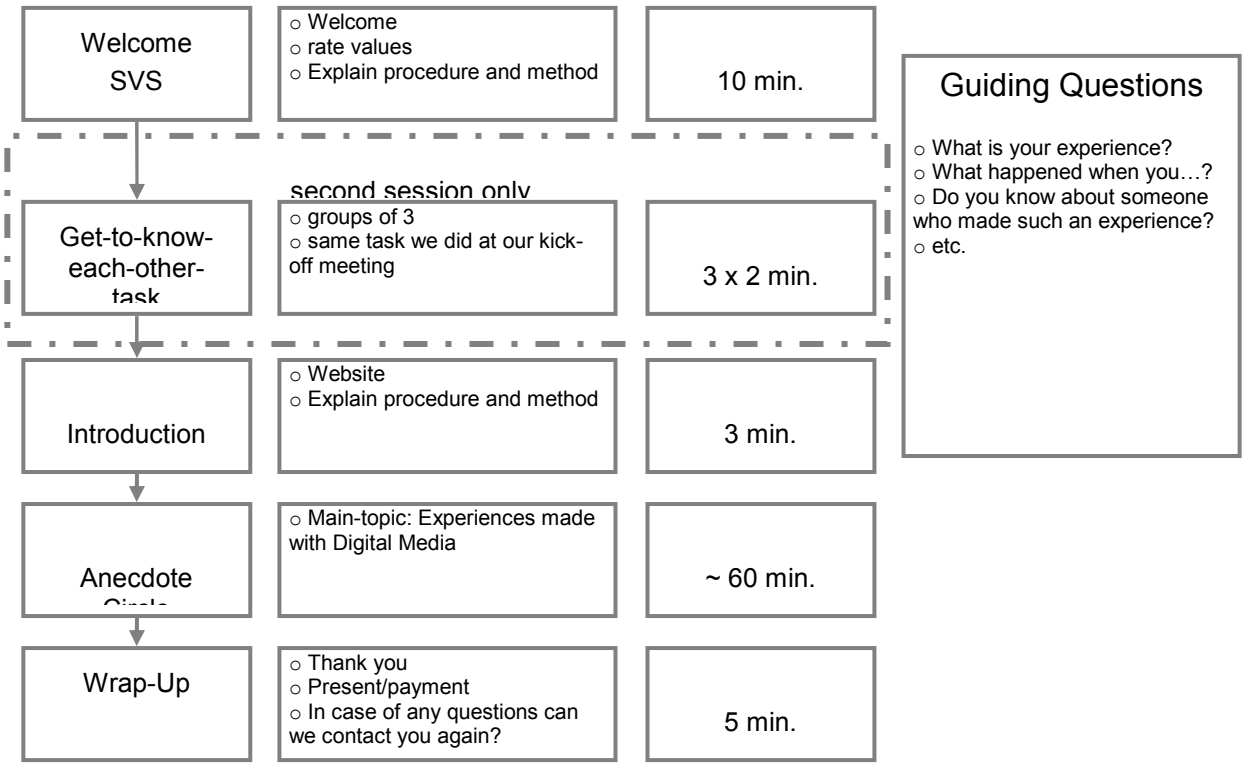
- Do not accept opinions, ask for experiences.
- Do not pose question after question, let participants take the lead.
- Do not question the reliability of a story, what is said is the truth.

- Do not simply ask people to tell stories, ask the about their past experiences or experiences of friends or relatives, a story they hear or what happened in the past – try to find a hook.

Occasionally it happens that the group is stuck or the storytelling does not really take off. In this case we can draw from three techniques to get started:

- Timelines: The facilitator draws a timeline and asks participants to place events related to the theme investigated on it.
- Ditting: Classic show-off behaviour: One person tells a story and the next one tries to tell a better one.
- Alternative Histories: In this case the group is asked to identify turning points of a story told and tries to tell the story as if the alternative scenario had unfolded.

Application



Topic

The main topic of this anecdote circle is on experiences made with digital media [dm]. This could be any experience in relation to digital music, videos, literature or software. Examples could be:

- someone experiences when buying dm, maybe on the street
- what happened when someone tried to sell some dm
- or the story of someone's friends who are playing in a band or develop software and want to sell it somewhere
- or any other experiences made when shopping online – good ones as well as bad ones
- also relevant are stories about the general role of dm in someone's lifestyle
    - where and how often do they use their MP3-player
    - do they share dm with friends
    - where do they get their dm from
    - how important is technology for them?
- we are also interested in stories that tell us about their design preferences

    - maybe they can tell a story about how and where they bought something that is very important to them – like their most favourite dress, their laptop or iPod
    - they can also tell about a great experience they had when they found something very nicely arranged or so
    - let them tell stories about their most favourite designs, colours, etc.
- it is also interesting how they communicate with each other – let them talk about that
- also let them tell stories how and when they shop online, what they bought how they found the product and made the payment, etc.

References

[Cal04a] Callahan, S. (2004a): How to use stories to size up a situation. Why traditional interviews and surveys are insufficient for understanding what is really going on in your organization. p. 1-5.

[Call04b] Callahan, S. (2004b): Tellin it like it is. Getting workers to tell anecdotes about how they work and who they work with can dig a lot deeper than regular interviews and surveys. In: HR Monthly, No. Dec 04 - Jan 05, p. 42-44.

11.5.6 Inspiration Card Workshop

Logistics

- group
- time: 90-120 min
- # groups: 5
- # participants per group: 4-6

Introduction

Inspiration Card Workshop is a collaborative method, with 4 to 6 participants for combining findings from domain studies (Domain Cards) with sources of inspiration from applications of technology (Technology Cards). The method applies alternative application cards and other tangible objects in design-process to become an intrinsic part of the dialogue, argumentation and means of expression to support inspiration.

Inspiration Cards consist of two types of cards as a standard for collecting information and consistently representing sources of inspiration to be prepared by the researcher prior to conducting the workshop. One type of cards are **Technology Cards** that describe a specific technology or application of one or more technologies. The others are **Domain Cards** which show information on situations, people, settings, themes, etc. that are all context related. These two types of cards are combined by the participants within the workshop. However the user also is encouraged to create new cards at any given point. Usually people will start by selecting a theme or situation from the domain-cards they whish to support or transform and combine them with technology-cards as a means to this end. To communicate their results participants are asked to write descriptions and brief scenarios on posters. Following potential technical as well as domain cards are listed.

Cards

- Technical Cards
  - streamed videos á la youtube
  - downloadable videos
  - podcasts (video/music)
  - streamed music
  - downloadable music
  - demo-software (trial versions)
  - VISA
  - PayPal
  - AMEX
  - chat
  - pin board for user profiles
  - pin board for product profiles
  - rating of products
  - rating of buyers/sellers
  - invite friends
  - build interest groups and communities
  - observe interesting products
  - vote/pay for products
  - email-function
  - join forces in groups to vote/pay for products
  - create an own profile
  - own picture
  - own product preferences
  - similar products
  - mobile access
  - product specification
  - MP3-player/Media-player
- Domain Cards

- to buy a CD/movie/book/software
- telling friends about a great CD/movie/book/software
- places to shop
- places to listen to music/watch movies/read books/use computers
- shopping music online
- chatting
- being on the phone
- writing emails
- to steal
- to share
- listening to music
- reading books
- watching a movie
- use a computer
- to write a song/poem; to create a movie, piece of software
- places to surf the internet

Reference

[Hal06] Halskov, K./Dalsgård, P. (2006): Inspiration card workshops. Proceedings of the 6th ACM conference on Designing Interactive systems DIS '06, University Park, PA, USA, June 26-28, New York: ACM Press, p. 2-11.

11.6 Appendix D

11.6.1 Methodological profiles

Single-User Methods

Table 11.9: Pairwise Comparison (with interviews)

	Creativity in terms of			Motivation in terms of			Interaction with	
	Fluency of Ideas	Flexibility of Thoughts	Originality	Content	Challenge	Curiosity	Artefact	Investigator
Interview	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00
Puzzle Interview	3,00	3,00	3,00	5,00	4,00	3,00	7,00	0,33
Cultural Probe	4,00	6,00	3,00	0,33	3,00	5,00	5,00	0,11

Table 11.10: Rankings

	Creativity in terms of			Motivation in terms of			Interaction with	
	Fluency of Ideas	Flexibility of Thoughts	Originality	Content	Challenge	Curiosity	Artefact	Investigator
Interview	0,125	0,100	0,143	0,158	0,125	0,111	0,077	0,692
Puzzle Interview	0,375	0,300	0,429	0,789	0,500	0,333	0,538	0,231
Cultural Probe	0,500	0,600	0,429	0,053	0,375	0,556	0,385	0,077

Group Methods

Table 11.11: Pairwise Comparison (with focus groups)

	Creativity in terms of			Motivation in terms of			Interaction with		
	Fluency of Ideas	Flexibility of Thoughts	Originality	Content	Challenge	Curiosity	Artefact	Group	Investigator
Focus Group	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00
Anecdote Circle	0,33	3,00	3,00	1,00	3,00	3,00	1,00	4,00	0,33
Inspiration Card Workshop	4,00	5,00	6,00	3,00	2,00	4,00	5,00	1,00	0,25

Table 11.12: Rankings

	Creativity in terms of			Motivation in terms of			Interaction with		
	Fluency of Ideas	Flexibility of Thoughts	Originality	Content	Challenge	Curiosity	Artefact	Group	Investigator
Focus Group	0,188	0,111	0,100	0,200	0,167	0,125	0,143	0,167	0,632
Anecdote Circle	0,063	0,333	0,300	0,200	0,500	0,375	0,143	0,667	0,211
Inspiration Card Workshop	0,750	0,556	0,600	0,600	0,333	0,500	0,714	0,167	0,158

11.6.2 National Profiles

Table 11.13: Cross-Cultural Comparison

	Kruskal-Wallis Ranks			Pairwise Comparison (with CN)			AHP Rankings		
	CN	KR	DE	CN	KR	DE	CN	KR	DE
NEUROTICISM	2	1	3	1,00	5,00	0,20	0,16	0,81	0,03
EXTRAVERSION	3	1	2	1,00	9,00	5,00	0,07	0,60	0,33
OPENNESS	1	3	2	1,00	0,11	0,20	0,76	0,08	0,15
AGREEABLENESS	3	2	1	1,00	5,00	9,00	0,07	0,33	0,60
CONSCIENTIOUSNESS	1	3	2	1,00	0,11	0,20	0,76	0,08	0,15
INTRINSIC	2	3	1	1,00	0,20	5,00	0,16	0,03	0,81
EXTRINSIC	2	1	3	1,00	5,00	0,20	0,16	0,81	0,03
ENJOYMENT	3	1	2	1,00	9,00	5,00	0,07	0,60	0,33
CHALLANGE	2	3	1	1,00	0,20	5,00	0,16	0,03	0,81
OUTWARD	2	1	3	1,00	5,00	0,20	0,16	0,81	0,03
COMPENSATION	3	1	2	1,00	9,00	5,00	0,07	0,60	0,33
CONFORMITY	1	2	3	1,00	0,20	0,11	0,76	0,15	0,08
TRADITION	2	1	3	1,00	5,00	0,20	0,16	0,81	0,03
BENELOVENCE	2	3	1	1,00	0,20	5,00	0,16	0,03	0,81
UNIVERSALISM	1	3	2	1,00	0,11	0,20	0,76	0,08	0,15
SELF_DIRECTION	3	1	2	1,00	9,00	5,00	0,07	0,60	0,33
STIMULATION	3	1	2	1,00	9,00	5,00	0,07	0,60	0,33
HEDONISM	3	2	1	1,00	5,00	9,00	0,07	0,33	0,60
ACHIEVEMENT	2	1	3	1,00	5,00	0,20	0,16	0,81	0,03
POWER	3	1	2	1,00	9,00	5,00	0,07	0,60	0,33
SECURITY	1	2	3	1,00	0,20	0,11	0,76	0,15	0,08

Table 11.14: Combined Cross-Cultural and National Profile – Factors China

	AHP Rank	Factor							
		1	2	3	4	5	6	7	8
Factor-Weight	-	0,264	0,122	0,116	0,108	0,106	0,102	0,096	0,087
NEUROTICISM	0,161	-	-	-	-0,698	-	-	-	-
EXTRAVERSION	0,067	-	-	-	0,934	-	-	-	-
OPENNESS	0,763	-	-	-	-	-	0,786	-	-
AGREEABLENESS	0,067	-	-	-	-	-	-	-	0,846
CONSCIENTIOUSNESS	0,763	-	-	0,874	-	-	-	-	-
INTRINSIC	0,161	0,922	-	-	-	-	-	-	-
EXTRINSIC	0,161	-0,923	-	-	-	-	-	-	-
ENJOYMENT	0,067	0,618	-	-	-	-	-	-0,534	-
CHALLANGE	0,161	0,733	-	-	-	-	-	-	-
OUTWARD	0,161	-	-	-0,619	-	-	-	-	-
COMPENSATION	0,067	-0,845	-	-	-	-	-	-	-
CONFORMITY	0,763	-	-	-	-	-	-0,691	-	-
TRADITION	0,161	-	-	-	-	-0,588	-	-	-
BENELOVENCE	0,161	-	0,501	-	-	-	-	-	-
UNIVERSALISM	0,763	-	-	-	-	-	-	-	-
SELF-DIRECTION	0,067	-	-	-	-	0,636	-	-	-
STIMULATION	0,067	-	-	-	-	-	-	-	-
HEDONISM	0,067	-	-	-	-	0,648	-	-	-
ACHIEVEMENT	0,161	-	-0,826	-	-	-	-	-	-
POWER	0,067	-	-0,708	-	-	-	-	-	-
SECURITY	0,763	-	-	-	-	-	-	-0,845	-

Table 11.15: Combined Cross-Cultural and National Profile – weighted Factors China

	AHP Rank	weighted Factor								SUM
		1	2	3	4	5	6	7	8	
NEUROTICISM	0,161	-	-	-	-0,012	-	-	-	-	-0,012
EXTRAVERSION	0,067	-	-	-	0,007	-	-	-	-	0,007
OPENNESS	0,763	-	-	-	-	-	0,061	-	-	0,061
AGREEABLENESS	0,067	-	-	-	-	-	-	-	0,005	0,005
CONSCIENTIOUSNESS	0,763	-	-	0,077	-	-	-	-	-	0,077
INTRINSIC	0,161	0,039	-	-	-	-	-	-	-	0,039
EXTRINSIC	0,161	-0,039	-	-	-	-	-	-	-	-0,039
ENJOYMENT	0,067	0,011	-	-	-	-	-	-0,003	-	0,007
CHALLANGE	0,161	0,031	-	-	-	-	-	-	-	0,031
OUTWARD	0,161	-	-	-0,012	-	-	-	-	-	-0,012
COMPENSATION	0,067	-0,015	-	-	-	-	-	-	-	-0,015
CONFORMITY	0,763	-	-	-	-	-	-0,053	-	-	-0,053
TRADITION	0,161	-	-	-	-	-0,010	-	-	-	-0,010
BENELOVENCE	0,161	-	0,010	-	-	-	-	-	-	0,010
UNIVERSALISM	0,763	-	-	-	-	-	-	-	-	-
SELF-DIRECTION	0,067	-	-	-	-	0,004	-	-	-	0,004
STIMULATION	0,067	-	-	-	-	-	-	-	-	-
HEDONISM	0,067	-	-	-	-	0,005	-	-	-	0,005
ACHIEVEMENT	0,161	-	-0,016	-	-	-	-	-	-	-0,016
POWER	0,067	-	-0,006	-	-	-	-	-	-	-0,006
SECURITY	0,763	-	-	-	-	-	-	-0,062	-	-0,062

Table 11.16: Combined Cross-Cultural and National Profile – Factors Korea

	AHP Rank	Factor					
		1	2	3	4	5	6
Factor-Weight	-	0,258	0,170	0,162	0,156	0,132	0,123
NEUROTICISM	0,806	-	-	-	-	-	-0,798
EXTRAVERSION	0,600	-	-	-	-	-	0,824
OPENNESS	0,085	-	-	-	-	-	-
AGREEABLENESS	0,333	-	-	-	-0,792	-	-
CONSCIENTIOUSNESS	0,085	-	-	-		0,745	-
INTRINSIC	0,032	0,758	-	-0,603	-	-	-
EXTRINSIC	0,806	-0,757	-	0,601	-	-	-
ENJOYMENT	0,600	-	-	-0,826	-	-	-
CHALLANGE	0,032	0,865	-	-	-	-	-
OUTWARD	0,806	-0,846	-	-	-	-	-
COMPENSATION	0,600	-	-	0,814	-	-	-
CONFORMITY	0,153	-0,532	-	-	-	-	-
TRADITION	0,806	-	-	-	-0,771	-	-
BENELOVENCE	0,032	-	-0,550	-		-	-
UNIVERSALISM	0,085	-	-0,804	-		-	-
SELF-DIRECTION	0,600	0,517	-	-	0,501	-	-
STIMULATION	0,600	-	-	-	0,526	-	-
HEDONISM	0,333	-	0,619	-	-	-0,554	-
ACHIEVEMENT	0,806	-	0,621	-	-	-	-
POWER	0,600	-	0,771	-	-	-	-
SECURITY	0,153	-	-	-	-	0,680	-

Table 11.17: Combined Cross-Cultural and National Profile – weighed Factors Korea

	AHP Rank	weighted Factor						SUM
		1	2	3	4	5	6	
NEUROTICISM	0,806	-	-	-	-	-	-0,079	-0,079
EXTRAVERSION	0,600	-	-	-	-	-	0,061	0,061
OPENNESS	0,085	-	-	-	-	-	-	-
AGREEABLENESS	0,333	-	-	-	-0,041	-	-	-0,041
CONSCIENTIOUSNESS	0,085	-	-	-	-	0,008	-	0,008
INTRINSIC	0,032	0,006	-	-0,003	-	-	-	0,003
EXTRINSIC	0,806	-0,158	-	0,078	-	-	-	-0,079
ENJOYMENT	0,600	-	-	-0,080	-	-	-	-0,080
CHALLANGE	0,032	0,007	-	-	-	-	-	0,007
OUTWARD	0,806	-0,176	-	-	-	-	-	-0,176
COMPENSATION	0,600	-	-	0,079	-	-	-	0,079
CONFORMITY	0,153	-0,021	-	-	-	-	-	-0,021
TRADITION	0,806	-	-	-	-0,097	-	-	-0,097
BENELOVENCE	0,032	-	-0,003	-	-	-	-	-0,003
UNIVERSALISM	0,085	-	-0,012	-	-	-	-	-0,012
SELF-DIRECTION	0,600	0,080	-	-	0,047	-	-	0,127
STIMULATION	0,600	-	-	-	0,049	-	-	0,049
HEDONISM	0,333	-	0,035	-	-	-0,024	-	0,011
ACHIEVEMENT	0,806	-	0,085	-	-	-	-	0,085
POWER	0,600	-	0,078	-	-	-	-	0,078
SECURITY	0,153	-	-	-	-	0,014	-	0,014

Table 11.18: Combined Cross-Cultural and National Profile – Factors Germany

	AHP Rank	Factor						
		1	2	3	4	5	6	7
Factor-Weight	-	0,292	0,141	0,138	0,122	0,122	0,096	0,089
NEUROTICISM	0,032	-0,820	-	-	-	-	-	-
EXTRAVERSION	0,333	0,781	-	-	-	-	-	-
OPENNESS	0,153	-	-	-	0,835	-	-	-
AGREEABLENESS	0,600	-	-	-	-	-	-	0,770
CONSCIENTIOUSNESS	0,153	-	-	-	-0,735	-	-	-
INTRINSIC	0,806	0,772	-	-0,559	-	-	-	-
EXTRINSIC	0,032	-0,767	-	0,573	-	-	-	-
ENJOYMENT	0,333	0,577	-	-	-	-	-0,595	-
CHALLANGE	0,806	0,665	-	-0,542	-	-	-	-
OUTWARD	0,032	-0,833	-	-	-	-	-	-
COMPENSATION	0,333	-	-	0,846	-	-	-	-
CONFORMITY	0,085	-	-	-	-	-	0,669	-
TRADITION	0,032	-	-0,814	-	-	-	-	-
BENELOVENCE	0,806	-	-	-	-	-0,758	-	-
UNIVERSALISM	0,153	-	-0,512	-	-	-0,639	-	-
SELF-DIRECTION	0,333	-	0,757	-	-	-	-	-
STIMULATION	0,333	0,521	-	-	-	-	-	-
HEDONISM	0,600	-	-	-	-	-	-0,624	0,609
ACHIEVEMENT	0,032	-	0,578	-	-	-	-	-
POWER	0,333	-	-	-	-	0,770	-	-
SECURITY	0,085	-	-	-	-0,712	-	-	-

Table 11.19: Combined Cross-Cultural and National Profile – weighted Factors Germany

	AHP Rank	weighted Factor							SUM
		1	2	3	4	5	6	7	
NEUROTICISM	0,032	-0,008	-	-	-	-	-	-	-0,008
EXTRAVERSION	0,333	0,076	-	-	-	-	-	-	0,076
OPENNESS	0,153	-	-	-	0,016	-	-	-	0,016
AGREEABLENESS	0,600	-	-	-	-	-	-	0,041	0,041
CONSCIENTIOUSNESS	0,153	-	-	-	-0,014	-	-	-	-0,014
INTRINSIC	0,806	0,182	-	-0,062	-	-	-	-	0,120
EXTRINSIC	0,032	-0,007	-	0,003	-	-	-	-	-0,005
ENJOYMENT	0,333	0,056	-	-	-	-	-0,019	-	0,037
CHALLANGE	0,806	0,157	-	-0,060	-	-	-	-	0,096
OUTWARD	0,032	-0,008	-	-	-	-	-	-	-0,008
COMPENSATION	0,333	-	-	0,039	-	-	-	-	0,039
CONFORMITY	0,085	-	-	-	-	-	0,005	-	0,005
TRADITION	0,032	-	-0,004	-	-	-	-	-	-0,004
BENELOVENCE	0,806	-	-	-	-	-0,074	-	-	-0,074
UNIVERSALISM	0,153	-	-0,011	-	-	-0,012	-	-	-0,023
SELF-DIRECTION	0,333	-	0,035	-	-	-	-	-	0,035
STIMULATION	0,333	0,051	-	-	-	-	-	-	0,051
HEDONISM	0,600	-	-	-	-	-	-0,036	0,033	-0,003
ACHIEVEMENT	0,032	-	0,003	-	-	-	-	-	0,003
POWER	0,333	-	-	-	-	0,031	-	-	0,031
SECURITY	0,085	-	-	-	-0,007	-	-	-	-0,007

11.7 Appendix E

Table 11.20: General Results - China

country		China								
method		int	puz	cp	fg	ac	ins	all	single	group
# of Ideas		19.900	49.200	11.100	11.300	5.750	6.789	14.292	26.733	7.966
I-S	experience	1.200	0.000	1.100	0.800	1.600	0.105	0.820	0.767	0.847
	opinion	16.100	49.200	4.300	9.000	2.750	3.421	11.191	23.200	5.085
	action	2.600	0.000	5.700	1.500	1.400	3.263	2.281	2.767	2.034
I-T 1	context	10.900	2.000	10.900	7.500	5.200	5.789	6.764	7.933	6.169
	product	9.000	47.200	0.200	3.800	0.550	1.000	7.528	18.800	1.797
I-T 2	user	3.800	0.600	6.500	2.950	2.550	2.684	3.034	3.633	2.729
	domain	4.900	1.000	3.000	3.250	2.000	2.789	2.775	2.967	2.678
	competitor	1.200	0.000	0.700	0.900	0.600	0.053	0.562	0.633	0.525
	infrastructure	1.100	0.400	0.700	0.450	0.050	0.263	0.416	0.733	0.254
	usp	2.300	1.000	0.000	1.100	0.150	0.000	0.652	1.100	0.424
	function	5.700	46.200	0.000	2.350	0.200	1.000	6.618	17.300	1.186
	design	0.900	0.000	0.200	0.300	0.200	0.000	0.236	0.367	0.169
Content	Lifestyle	9.400	1.400	7.900	5.950	4.200	4.105	5.258	6.233	4.763
	Product/ Service	1.200	0.000	2.500	0.950	0.450	0.211	0.775	1.233	0.542
	Design Pref.	1.800	0.800	0.500	0.800	0.100	0.000	0.551	1.033	0.305
	Functional Req.	10.400	47.300	0.800	3.600	1.300	2.053	8.112	19.500	2.322
	Communic. Req.	3.600	1.100	0.000	1.850	0.350	1.316	1.303	1.567	1.169
	Informational Req.	6.300	1.500	0.100	2.950	0.150	0.789	1.753	2.633	1.305
Quality	uniqueness	1.067	1.016	0.824	1.327	1.016	0.514	0.963	0.969	0.960
	relevance	1.284	1.941	0.631	1.462	1.044	0.547	1.113	1.285	1.026
	clearness	1.071	1.008	0.808	1.140	0.762	0.520	0.863	0.962	0.812

int = interview; puz = puzzle interview; cp = cultural probe; fg = focus group; ac = anecdote circle; ins = inspiration card workshop

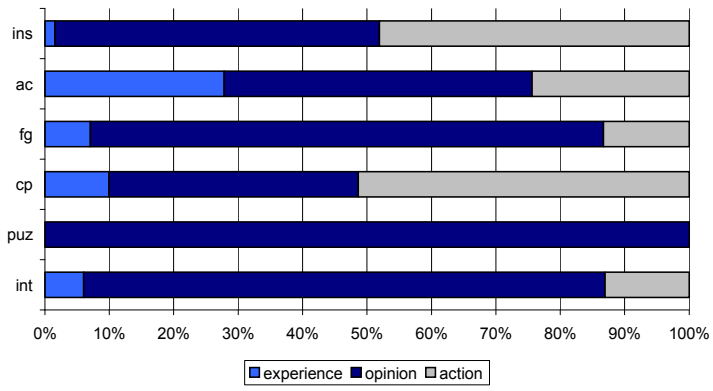


Figure 11.85: Information Source - China

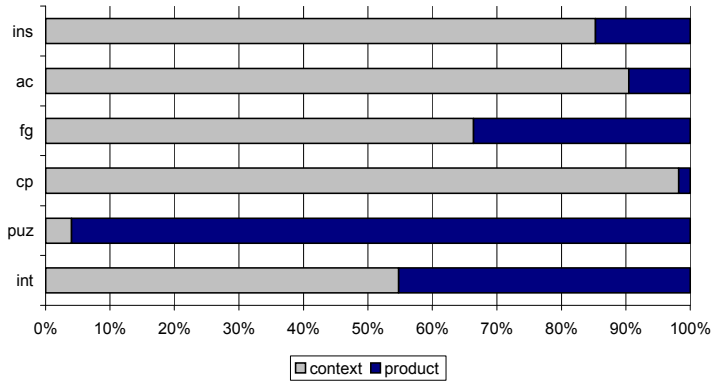


Figure 11.86: Information Target and Method - China

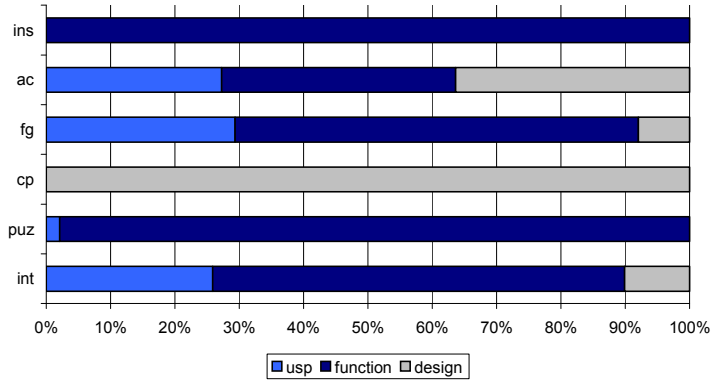


Figure 11.87: Information Target (Product Level) and Method - China

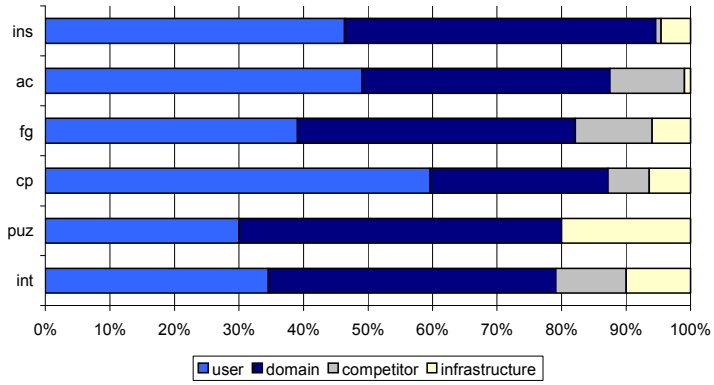


Figure 11.88: Information Target (Context Level) and Method – China

Table 11.21: General Results - Korea

country		Korea								
method		int	puz	cp	fg	ac	ins	all	single	group
# of Ideas		22.000	58.500	3.429	10.056	7.278	3.048	14.345	30.704	6.596
I-S	experience	2.100	0.000	0.000	0.778	2.167	0.190	0.929	0.778	1.000
	opinion	10.100	58.400	0.000	7.000	3.167	1.143	10.619	25.370	3.632
	action	9.800	0.100	3.429	2.278	1.944	1.714	2.798	4.556	1.965
I-T 1	context	18.900	10.400	3.429	5.944	6.333	3.048	7.167	11.741	5.000
	product	3.100	48.100	0.000	4.111	0.944	0.000	7.179	18.963	1.596
I-T 2	user	11.700	0.600	0.714	2.722	0.000	1.524	2.488	4.741	1.421
	domain	6.000	9.600	2.714	2.667	3.333	1.429	3.726	6.481	2.421
	competitor	1.300	0.000	0.000	0.556	0.222	0.000	0.321	0.481	0.246
	infrastructure	0.200	0.100	0.000	0.000	0.056	0.095	0.071	0.111	0.053
	usp	0.900	2.600	0.000	1.778	0.500	0.000	0.905	1.296	0.719
	function	1.400	45.400	0.000	2.111	0.222	0.000	6.071	17.333	0.737
	design	0.500	0.200	0.000	0.222	0.222	0.000	0.179	0.259	0.140
Content	Lifestyle	10.700	3.400	2.000	4.056	5.778	2.524	4.583	5.741	4.035
	Product/ Service	1.600	0.100	1.857	0.889	0.167	0.000	0.583	1.111	0.333
	Design Pref.	2.100	1.800	0.000	0.667	0.222	0.000	0.655	1.444	0.281
	Functional Req.	7.100	43.700	0.143	5.667	1.389	0.190	7.619	18.852	2.298
	Communic. Req.	2.500	4.800	0.000	1.889	0.500	0.381	1.476	2.704	0.895
	Informational Req.	7.700	13.000	0.429	3.222	0.833	0.238	3.429	7.778	1.368
Quality	uniqueness	1.021	1.106	0.321	1.157	0.954	0.308	0.809	0.871	0.780
	relevance	0.996	1.883	0.286	1.186	0.776	0.386	0.884	1.141	0.762
	clearness	1.109	1.113	0.286	0.963	0.785	0.782	0.858	0.897	0.840

int = interview; puz = puzzle interview; cp = cultural probe; fg = focus group; ac = anecdote circle; ins = inspiration card workshop

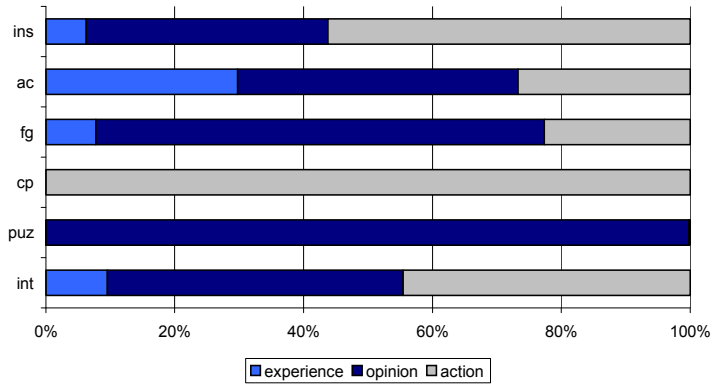


Figure 11.89: Information Source - Korea

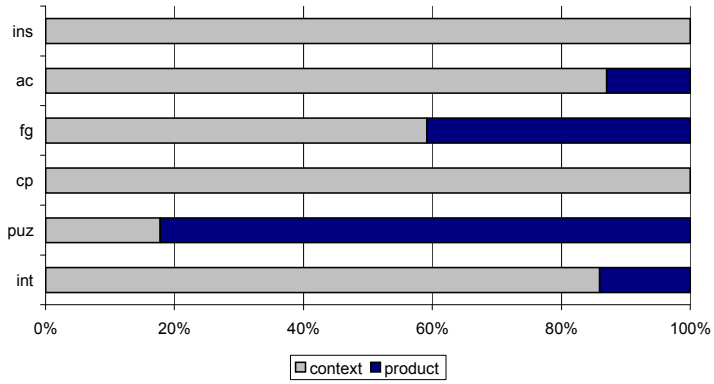


Figure 11.90: Information Target and Method - Korea

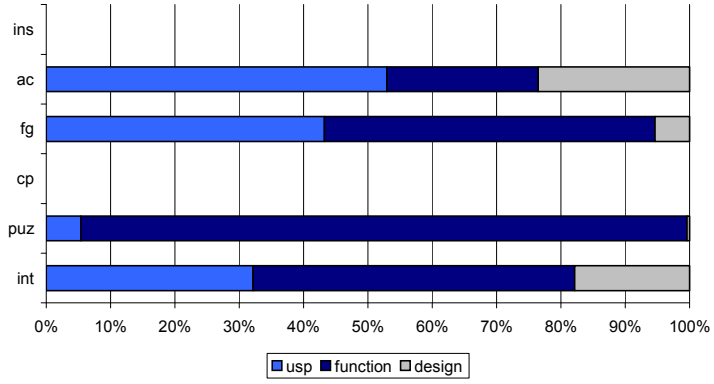


Figure 11.91: Information Target (Product Level) and Method - Korea

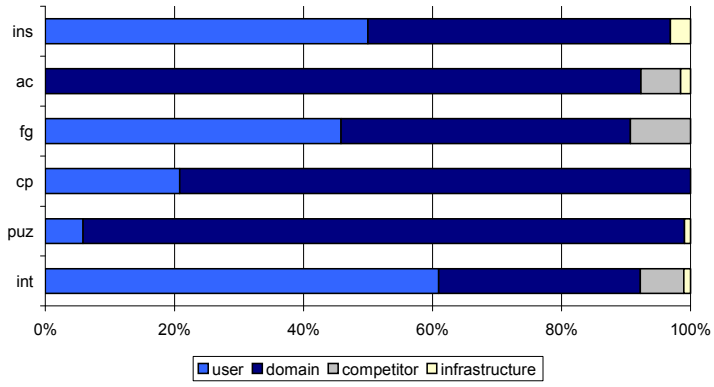


Figure 11.92: Information Target (Context Level) and Method – Korea

Table 11.22: General Results - Germany

country		Germany								
method		int	puz	cp	fg	ac	ins	all	single	group
# of Ideas		22.700	33.900	0.000	12.158	8.316	7.529	14.440	28.300	9.400
I-S	experience	1.300	0.000	0.000	1.895	2.789	0.471	1.467	0.650	1.764
	opinion	17.900	32.100	0.000	8.579	3.263	4.882	10.773	25.000	5.600
	action	3.500	0.000	0.000	1.684	2.263	2.176	1.960	1.750	2.036
I-T 1	context	14.500	0.100	0.000	6.000	7.684	7.059	7.013	7.300	6.909
	product	8.200	32.000	0.000	6.158	0.632	0.471	7.187	20.100	2.491
I-T 2	user	7.200	0.000	0.000	2.526	4.316	4.412	3.693	3.600	3.727
	domain	6.000	0.100	0.000	1.684	3.263	2.588	2.667	3.050	2.527
	competitor	0.800	0.000	0.000	1.579	0.105	0.000	0.533	0.400	0.582
	infrastructure	0.300	0.000	0.000	0.316	0.000	0.000	0.120	0.150	0.109
	usp	1.400	0.000	0.000	1.737	0.158	0.059	0.680	0.700	0.673
	function	5.000	32.000	0.000	3.632	0.211	0.471	6.000	18.500	1.455
	design	2.000	0.000	0.000	0.684	0.263	0.000	0.507	1.000	0.327
Content	Lifestyle	8.200	0.100	0.000	3.526	5.632	4.176	4.373	4.150	4.455
	Product/ Service	2.500	0.000	0.000	2.368	1.579	0.353	1.413	1.250	1.473
	Design Pref.	3.100	0.000	0.000	1.789	0.316	0.000	0.947	1.550	0.727
	Functional Req.	7.400	32.000	0.000	7.158	1.053	1.353	7.640	19.700	3.255
	Communic. Req.	1.600	0.000	0.000	0.842	0.842	1.353	0.947	0.800	1.000
	Informational Req.	8.400	0.000	0.000	2.053	0.895	1.647	2.240	4.200	1.527
Quality	uniqueness	1.181	1.000	0.000	1.082	0.887	0.812	0.974	1.090	0.931
	relevance	1.310	1.997	0.000	1.307	0.582	0.608	1.057	1.653	0.840
	clearness	1.105	0.991	0.000	1.030	1.063	0.807	0.993	1.048	0.973

int = interview; puz = puzzle interview; cp = cultural probe; fg = focus group; ac = anecdote circle; ins = inspiration card workshop

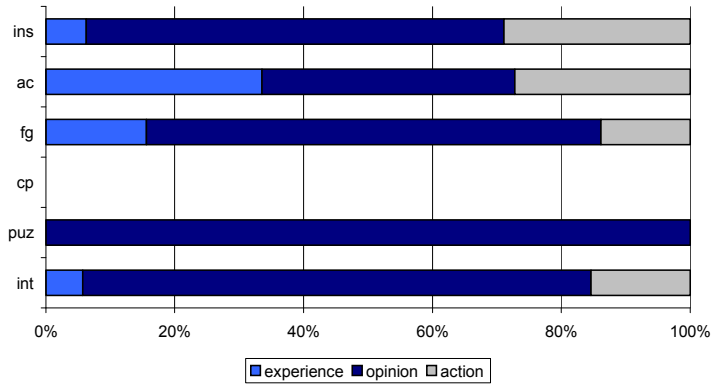


Figure 11.93: Information Source – Germany

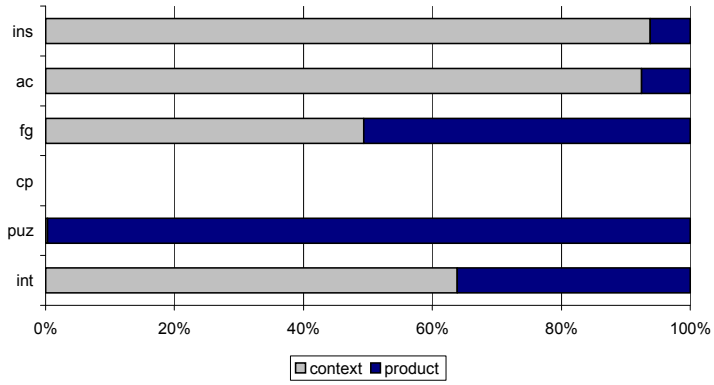


Figure 11.94: Information Target and Method - Germany

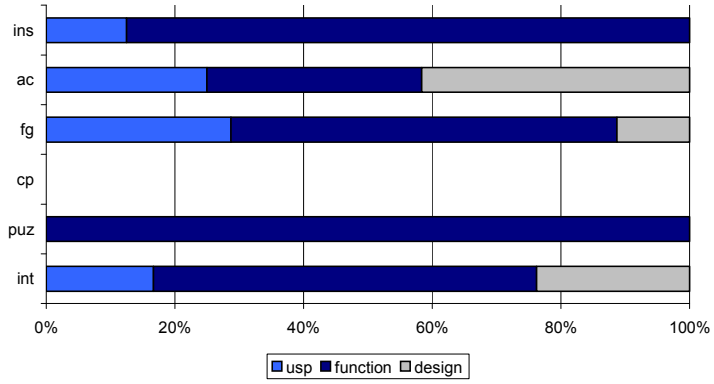


Figure 11.95: Information Target (Product Level) and Method - Germany

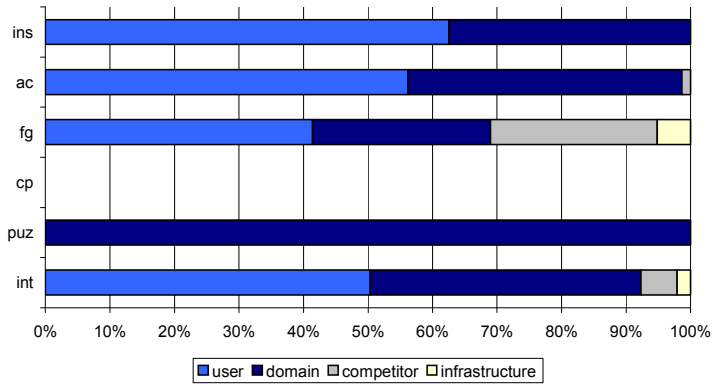


Figure 11.96: Information Target (Context Level) and Method - Korea

11.8 Appendix F

11.8.1 Psychological Questionnairs

NEO-FFM Test

This questionnaire contains 60 statements. Read each statement carefully. For each statement mark the option that best represents your opinion. Mark SD if you strongly disagree or the statement is definitely false. Mark D if you disagree or the statement is mostly false. Mark N if you are neutral on the statement, you cannot decide, or the statement is about equally true and false. Mark A if you agree or the statement is mostly true. Mark SA if you strongly agree or the statement is definitely true.

1. I am not a worrier	SD	D	N	A	SA
2. I like to have a lot of people around me	SD	D	N	A	SA
3. I don't like to waste my time daydreaming	SD	D	N	A	SA
4. I try to be courteous to everyone I meet	SD	D	N	A	SA
5. I keep my belonging neat and clean	SD	D	N	A	SA
6. I often feel inferior to others	SD	D	N	A	SA
7. I laugh easily	SD	D	N	A	SA
8. Once I find the right way to do something, I stick to it	SD	D	N	A	SA
9. I often get into argument with my family and co-workers	SD	D	N	A	SA
10. I'm pretty good about pacing myself so as to get things done on time	SD	D	N	A	SA
11. When I'm under a great deal of stress, sometimes I feel like I'm going to pieces	SD	D	N	A	SA
12. I don't consider myself especially "light-hearted"	SD	D	N	A	SA
13. I am intrigued by the patterns I find in art and nature	SD	D	N	A	SA
14. Some people think I'm selfish and egotistical	SD	D	N	A	SA
15. I am not a very methodical person	SD	D	N	A	SA
16. I rarely feel lonely or blue	SD	D	N	A	SA
17. I really enjoy talking to people	SD	D	N	A	SA
18. I believe letting students hear controversial speakers can only confuse and mislead them	SD	D	N	A	SA
19. I would rather cooperate with others than compete with them	SD	D	N	A	SA
20. I try to perform all the tasks assigned to me conscientiously	SD	D	N	A	SA

21.I often feel tense and jittery	SD	D	N	A	SA
22.I like to be where the action is	SD	D	N	A	SA
23.Poetry has little or no effect on me	SD	D	N	A	SA
24.I tend to be cynical of skeptical of others' intentions	SD	D	N	A	SA
25.I have a clear set of goals and work toward them in an orderly fashion	SD	D	N	A	SA
26.Sometimes I feel completely worthless	SD	D	N	A	SA
27.I usually prefer to do things alone	SD	D	N	A	SA
28.I often try new and foreign foods	SD	D	N	A	SA
29.I believe that most people will take advantage of you if you let them	SD	D	N	A	SA
30.I waste a lot of time before settling down to work	SD	D	N	A	SA
31.I rarely feel fearful or anxious	SD	D	N	A	SA
32.I often feel as if I'm bursting with energy	SD	D	N	A	SA
33.I seldom notice the moods of feelings that different environments produce	SD	D	N	A	SA
34.Most people I know like me	SD	D	N	A	SA
35.I work hard to accomplish my goals	SD	D	N	A	SA
36.I often get angry at the way people treat me	SD	D	N	A	SA
37.I am a cheerful, high-spirited person	SD	D	N	A	SA
38.I believe we should look to our religious authorities for decisions on moral issues	SD	D	N	A	SA
39.Some people think of me as cold and calculating	SD	D	N	A	SA
40.When I make a commitment, I can always be counted on to follow through	SD	D	N	A	SA
41.Too often, when things go wrong, I get discourage and feel like giving up	SD	D	N	A	SA
42.I am not a cheerful optimist	SD	D	N	A	SA
43.Sometimes when I am reading poetry or looking at a work of art, I feel a chill or wave of excitement	SD	D	N	A	SA
44.I'm hard-headed and tough-minded in my attitudes	SD	D	N	A	SA
45.Sometimes I'm not as dependable or reliable as I should be	SD	D	N	A	SA
46.I am seldom sad or depressed	SD	D	N	A	SA
47.My life is fast-paced	SD	D	N	A	SA
48.I have little interest in speculating on the nature of the universe of the human condition	SD	D	N	A	SA
49.I generally try to be thoughtful and considerate	SD	D	N	A	SA
50.I am a productive person who always gets the job done	SD	D	N	A	SA

51.I often feel helpless and want someone else to solve my problems	SD	D	N	A	SA
52.I am a very active person	SD	D	N	A	SA
53.I have a lot of intellectual curiosity	SD	D	N	A	SA
54.If I don't like people, I let them know it	SD	D	N	A	SA
55.I never seem to be able to get organized	SD	D	N	A	SA
56.At times I have been so ashamed I just wanted to hide	SD	D	N	A	SA
57.I would rather go my own way than be a leader of others	SD	D	N	A	SA
58.I often enjoy playing with theories or abstract ideas	SD	D	N	A	SA
59.If necessary, I am willing to manipulate people to get what I want	SD	D	N	A	SA
60.I strive for excellence in everything I do	SD	D	N	A	SA

Work Preference Inventory

This questionnaire contains 30 statements. Read each statement carefully. For each statement mark the option that best represents your opinion. Mark SD if you strongly disagree or the statement is definitely false. Mark D if you disagree or the statement is mostly false. Mark N if you are neutral on the statement, you cannot decide, or the statement is about equally true and false. Mark A if you agree or the statement is mostly true. Mark SA if you strongly agree or the statement is definitely true.

1. I am not that concerned about what other people think of my work	SD	D	N	A	SA
2. I prefer having someone set clear goals for me and my work	SD	D	N	A	SA
3. The more difficult the problem, the more I enjoy trying to solve it	SD	D	N	A	SA
4. I am keenly aware of the [goals I have for getting good grades] [income goals I have for myself]	SD	D	N	A	SA
5. I want my work to provide me with opportunities for increasing my knowledge and skills	SD	D	N	A	SA
6. To me success means doing better than other people	SD	D	N	A	SA
7. I prefer to figure things out for myself	SD	D	N	A	SA
8. No matter what the outcome of a project, I am satisfied if I feel I gained a new experience	SD	D	N	A	SA
9. I enjoy relatively simple, straightforward tasks	SD	D	N	A	SA
10.I am keenly aware of the [GPA (grade average point)][promotion] goals I have for myself	SD	D	N	A	SA
11.Curiosity is the driving force behind much of what I do	SD	D	N	A	SA
12.I'm less concerned with what work I do than what I get for it	SD	D	N	A	SA
13.I enjoy tackeling problems that are completely new to me	SD	D	N	A	SA

14.I prefer work I know I can do well over work that stretches my abilities	SD	D	N	A	SA
15.I am concerned about how other people are going to react to my ideas	SD	D	N	A	SA
16.I seldom think about [grades and awards] [salary and promotions]	SD	D	N	A	SA
17.I'm more comfortable when I can set my own goals	SD	D	N	A	SA
18.I believe that there is no point in doing a good job if nobody else knows about it	SD	D	N	A	SA
19.I am strongly motivated ny the [grades][money] I can earn	SD	D	N	A	SA
20.It is important for me to be able to do what I most enjoy	SD	D	N	A	SA
21.I prefer working on projects with clearly specified procedures	SD	D	N	A	SA
22.As long as I can do what I enjoy I am not that concerned about exactly [what grades of awards I can earn] [what I am paid]	SD	D	N	A	SA
23.I enjoy doing work that is so absorbing that I forget about everything else	SD	D	N	A	SA
24.I am strongly motivated by the recognition I can earn from other people	SD	D	N	A	SA
25.I have to feel that I'm earning something for what I do	SD	D	N	A	SA
26.I enjoy trying to solve complex problems	SD	D	N	A	SA
27.It is important for me to have an outlet for self-expression	SD	D	N	A	SA
28.I want to find out how good I really can be at my work	SD	D	N	A	SA
29.I want other people to find out how good I really can be at my work	SD	D	N	A	SA
30.What matters most to me is enjoying what I do	SD	D	N	A	SA

SVS

In this questionnaire you are to ask yourself: "What values are important to ME as guiding principles in MY life, and what values are less important to me?" There are two lists of values on the following pages. These values come from different cultures. In the parentheses following each value is an explanation that may help you to understand its meaning.

Your task is to rate how important each value is for you as a guiding principle in your life. Use the rating scale below:

0--means the value is not at all important, it is not relevant as a guiding principle for you.

3--means the value is important.

6--means the value is very important.

The higher the number (0, 1, 2, 3, 4, 5, 6), the more important the value is as a guiding principle in YOUR life.

-1 is for rating any values opposed to the principles that guide you.

7 is for rating a value of supreme importance as a guiding principle in your life; ***ordinarily there are no more than two such values.***

In the space before each value, write the number (-1,0,1,2,3,4,5,6,7) that indicates the importance of that value for you, personally. Try to distinguish as much as possible between the values by using all the numbers. You will, of course, need to use numbers more than once.

AS A GUIDING PRINCIPLE IN MY LIFE, this value is:

opposed to my values	not important			important			very important	of supreme importance
-1	0	1	2	3	4	5	6	7

Before you begin, read the values in List I, choose the one that is most important to you and rate its importance. Next, choose the value that is most opposed to your values and rate it -1. If there is no such value, choose the value least important to you and rate it 0 or 1, according to its importance. Then rate the rest of the values in List I.

VALUES LIST I

1 ____EQUALITY (equal opportunity for all)

2 ____INNER HARMONY (at peace with myself)

3 ____SOCIAL POWER (control over others, dominance)

4 _____PLEASURE (gratification of desires)

5 ____FREEDOM (freedom of action and thought)

6 ____A SPIRITUAL LIFE (emphasis on spiritual not material matters)

7 ____SENSE OF BELONGING (feeling that others care about me)

8 ____SOCIAL ORDER (stability of society)

9 ____AN EXCITING LIFE (stimulating experiences)

10___MEANING IN LIFE (a purpose in life)

11____POLITENESS (courtesy, good manners)

12____WEALTH (material possessions, money)

13____ NATIONAL SECURITY (protection of my nation from enemies)

14____ SELF RESPECT (belief in one's own worth)

15____RECIPROCATION OF FAVORS (avoidance of indebtedness)

16____CREATIVITY (uniqueness, imagination)

17____A WORLD AT PEACE (free of war and conflict)

18____RESPECT FOR TRADITION (preservation of time-honored customs)

19____MATURE LOVE (deep emotional & spiritual intimacy)

20____SELF-DISCIPLINE (self-restraint, resistance to temptation)

21____PRIVACY (the right to have a private sphere)

22____FAMILY SECURITY (safety for loved ones)

23____SOCIAL RECOGNITION (respect, approval by others)

24____UNITY WITH NATURE (fitting into nature)

25____A VARIED LIFE (filled with challenge, novelty and change)

26____WISDOM (a mature understanding of life)

27____AUTHORITY (the right to lead or command)

28____TRUE FRIENDSHIP (close, supportive friends)

29____A WORLD OF BEAUTY (beauty of nature and the arts)

30____SOCIAL JUSTICE (correcting injustice, care for the weak)

VALUES LIST II

Now rate how important each of the following values is for you as a guiding principle in YOUR life. These values are phrased as ways of acting that may be more or less important for you. Once again, try to distinguish as much as possible between the values by using all the numbers.

Before you begin, read the values in List II, choose the one that is most important to you and rate its importance. Next, choose the value that is most opposed to your values, or--if there is no such value--choose the value least important to you, and rate it -1, 0, or 1, according to its importance. Then rate the rest of the values.

AS A GUIDING PRINCIPLE IN MY LIFE, this value is:

opposed to my values	not important			important			very important	of supreme importance
-1	0	1	2	3	4	5	6	7

31____ INDEPENDENT (self-reliant, self-sufficient)

32____ MODERATE (avoiding extremes of feeling & action)

33____LOYAL (faithful to my friends, group)

34____AMBITIOUS (hard-working, aspiring)

35____BROADMINDED (tolerant of different ideas and beliefs)

36____HUMBLE (modest, self-effacing)

37____DARING (seeking adventure, risk)

38____PROTECTING THE ENVIRONMENT (preserving nature)

39____INFLUENTIAL (having an impact on people and events)

40____HONORING OF PARENTS AND ELDERS (showing respect)

41____CHOOSING OWN GOALS (selecting own purposes)

42____HEALTHY (not being sick physically or mentally)

43____CAPABLE (competent, effective, efficient)

44____ACCEPTING MY PORTION IN LIFE (submitting to life's circumstances)

45____HONEST (genuine, sincere)

46____PRESERVING MY PUBLIC IMAGE (protecting my "face")

47____OBEDIENT (dutiful, meeting obligations)

48____INTELLIGENT (logical, thinking)

49____HELPFUL (working for the welfare of others)

50____ENJOYING LIFE (enjoying food, sex, leisure, etc.)

51____DEVOUT (holding to religious faith & belief)

52____RESPONSIBLE (dependable, reliable)

53____CURIOUS (interested in everything, exploring)

54____FORGIVING (willing to pardon others)

55____SUCCESSFUL (achieving goals)

56____CLEAN (neat, tidy)

57____SELF-INDULGENT (doing pleasant things)

11.8.2 Raw Data Psychological Questionnaires

Table 11.23: Demography Participants – China

no	age	gender	major	graduate/ undergraduate	method
1	23	male	ship engine management	u	interview
2	24	female	medicine	u	interview
3	23	male	international economics	u	puzzle interview
4	20	male	computer science	u	puzzle interview
5	20	male	navigation	u	interview
6	21	male	navigation	u	interview
7	21	male	electronic information engineering	u	puzzle interview
8	21	male	e-business	u	puzzle interview
9	23	male	electronic information engineering	u	interview
10	22	male	transportation engineering	u	interview
11	21	male	computer science	g	interview
12	24	male	civil engineering	u	interview
13	20	female	ship engine management	u	interview
14	22	female	electronic information engineering	u	interview
15	21	female	computer science	u	puzzle interview
16	25	male	logistics	u	puzzle interview
17	25	female	business administration	g	puzzle interview
18	19	male	mathematics	u	puzzle interview
19	22	male	ship engine management	u	puzzle interview
20	27	male	logistics	u	puzzle interview
21	22	female	public affairs management	u	focus group
22	22	male	ship engine management	u	focus group
23	24	female	computer science	g	focus group
24	20	male	computer science	u	focus group
25	19	female	fresh	u	focus group
26	22	male	e-business	u	focus group
27	25	male	automatization	u	focus group
28	27	male	computer science	g	focus group
29	22	female	public affairs management	u	focus group
30	23	female	hci	u	focus group
31	20	male	transportation engineering	g	focus group
32	24	male	computer science	g	focus group
33	22	female	public affairs management	u	focus group
34	21	female	logistics	u	focus group
35	21	female	transportation engineering	u	focus group
36	21	male	civil engineering	u	cultural probes
37	23	male	business administration	g	cultural probes
38	23	male	law	g	focus group
39	24	female	business administration	g	focus group
40	25	male	computer science	g	focus group
41	24	female	hci	g	focus group
42	21	male	fresh	u	focus group
43	20	male	transportation engineering	u	cultural probes
44	22	male	transportation engineering	u	cultural probes
45	23	male	computer science	g	anecdote circle
46	21	male	navigation	u	anecdote circle
47	20	male	ship engine management	u	anecdote circle
48	26	male	automatization	g	anecdote circle
49	23	male	logistics	u	anecdote circle
50	22	male	computer science	u	cultural probes

no	age	gender	major	graduate/ undergraduate	method
51	24	male	computer science	g	cultural probes
52	24	male	information management	g	anecdote circle
53	22	female	maritime law	u	anecdote circle
54	25	male	automatization	g	anecdote circle
55	24	female	computer science	g	anecdote circle
56	22	female	hci	u	anecdote circle
57	21	male	computer science	u	cultural probes
58	21	female	international economics	u	cultural probes
59	22	male	business administration	u	cultural probes
60	20	male	logistics	u	cultural probes
61	24	male	automatization	g	anecdote circle
62	25	male	ship engine management	g	anecdote circle
63	25	female	English	g	anecdote circle
64	24	male	hci	u	anecdote circle
65	26	female	hci	u	anecdote circle
66	24	male	computer science	g	anecdote circle
67	26	male	signal and information systems	g	anecdote circle
68	20	female	communication engineering	u	anecdote circle
69	25	male	hci	g	anecdote circle
70	27	female	computer science	teacher	anecdote circle
71	24	male	marketing	u	inspiration card workshop
72	24	female	information management	u	inspiration card workshop
73	21	male	logistics	u	inspiration card workshop
74	20	female	maritime law	u	inspiration card workshop
75	26	male	road&railway engineering	g	inspiration card workshop
76	21	male	automatization	u	inspiration card workshop
77	23	male	computer science	g	inspiration card workshop
78	24	female	hci	g	inspiration card workshop
79	24	male	logistics	u	inspiration card workshop
80	23	male	ship engine management	g	inspiration card workshop
81	23	female	law	u	inspiration card workshop
82	24	male	English	g	inspiration card workshop
83	26	male	computer science	g	inspiration card workshop
84	26	female	hci	g	inspiration card workshop
85	23	female	business administration	g	inspiration card workshop
86	25	female	international economics	employee	inspiration card workshop
87	25	male	hci	g	inspiration card workshop
88	23	male	ship engine management	g	inspiration card workshop
89	25	female	computer science	g	inspiration card workshop

Table 11.24: Raw Data NEO-FFI – China (part 1)

no	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
1	0	2	0	4	4	0	4	0	4	0	0	4	4	2	4	0	4	4	4	4	0	4	4	0	2	4	2	4	0	2
2	1	3	0	4	4	2	3	1	3	4	3	1	3	2	3	1	3	4	1	3	0	0	3	4	2	1	1	0	0	1
3	4	2	0	4	4	3	3	0	1	1	1	3	4	2	3	1	1	3	3	3	2	2	3	2	3	0	3	3	2	2
4	3	2	0	3	4	3	2	1	1	1	0	1	4	1	3	1	3	4	3	4	1	2	3	1	4	0	3	3	0	3
5	4	3	0	3	3	1	1	1	2	1	0	3	4	3	3	2	3	3	3	3	1	2	3	3	2	1	3	3	2	3
6	1	2	1	3	3	2	3	1	2	3	1	2	2	3	2	2	2	3	2	3	2	2	2	2	2	1	1	2	1	2
7	3	2	1	4	3	1	3	0	3	3	1	3	4	0	4	1	4	2	4	4	1	3	4	4	3	0	1	3	4	4
8	1	4	2	4	1	1	3	0	3	1	2	2	4	2	1	1	2	4	4	4	2	4	4	1	4	1	3	4	3	2
9	0	2	4	3	3	3	3	0	2	3	1	3	4	1	3	1	3	3	3	3	1	3	4	2	4	0	1	0	3	1
10	1	3	1	4	3	1	3	3	4	2	2	3	3	1	3	0	3	3	1	3	1	3	4	0	3	0	3	1	1	3
11	1	3	2	2	3	1	4	1	3	0	1	3	4	2	2	4	2	1	2	1	0	2	1	4	3	3	3	0	1	2
12	3	3	1	4	4	3	3	0	3	1	3	1	4	3	1	3	2	2	1	3	3	2	1	1	2	3	1	1	1	1
13	1	2	1	4	4	4	3	2	2	2	1	3	4	3	2	1	3	2	3	3	1	1	4	2	3	4	1	3	2	1
14	0	3	0	4	3	2	3	1	4	2	1	4	3	3	1	0	3	4	4	4	0	1	1	2	1	2	2	3	2	1
15	1	3	2	4	2	3	2	1	3	2	3	1	2	3	3	3	3	3	4	3	4	2	0	1	2	1	3	1	2	1
16	1	1	1	3	1	1	3	2	3	3	1	1	3	4	2	1	3	4	2	3	1	2	3	2	2	2	1	1	1	1
17	2	3	0	4	3	3	2	1	2	1	3	1	3	1	2	3	3	4	4	4	2	4	4	1	2	3	1	1	1	1
18	3	3	0	3	3	1	0	0	1	2	3	1	4	1	4	3	1	4	3	3	0	4	1	2	4	1	3	1	1	2
19	1	2	0	3	4	1	2	1	2	2	1	2	3	2	4	2	2	1	2	3	1	2	2	2	4	2	1	2	2	2
20	2	3	0	4	3	1	2	1	2	3	3	1	2	1	2	2	3	3	2	3	2	3	2	3	2	1	3	2	3	2
21	3	4	1	4	3	2	4	2	3	0	0	2	2	2	2	2	4	4	3	3	0	4	3	4	3	0	4	3	4	4
22	1	1	1	3	3	1	2	1	2	1	2	3	2	2	3	1	3	3	3	3	1	2	3	2	3	1	1	3	2	2
23	1	3	1	2	4	2	2	1	4	2	1	1	4	4	1	3	3	3	3	3	1	3	4	4	2	1	1	2	4	1
24	0	0	0	4	2	0	1	2	4	2	0	3	2	4	3	1	3	4	1	3	0	1	1	2	3	0	1	1	1	4
25	0	4	3	4	3	0	4	3	2	2	3	4	4	2	1	1	4	4	4	3	0	4	3	2	3	0	3	3	2	3
26	1	1	0	4	2	1	4	1	1	1	0	3	4	2	3	1	3	4	2	2	1	2	4	3	3	0	2	3	3	2
27	2	3	0	4	4	1	4	1	1	2	3	3	4	1	3	1	4	4	3	3	1	3	1	3	3	2	2	3	2	3
28	2	3	0	3	3	3	1	0	1	1	1	3	1	1	0	2	2	1	1	3	3	1	1	1	4	3	1	1	1	1
29	1	1	0	4	3	2	3	2	3	2	3	1	4	1	3	3	4	4	3	4	1	0	1	3	2	0	1	4	3	1
30	3	3	1	3	3	2	3	1	3	1	3	3	4	1	2	3	3	3	3	3	1	2	3	3	2	3	3	3	3	1
31	1	3	1	3	3	1	3	1	1	2	1	3	3	1	3	1	3	2	3	3	1	2	2	2	3	1	2	2	2	1
32	3	2	0	3	2	1	4	1	4	1	2	2	3	4	1	3	3	4	1	3	0	1	2	3	3	1	3	0	3	2
33	0	4	1	4	4	0	4	2	3	3	0	4	2	3	1	1	3	3	3	4	1	1	4	3	2	0	1	4	3	3
34	1	4	1	4	4	3	4	2	2	4	4	1	4	3	3	2	4	3	4	4	2	4	1	2	0	3	2	3	0	0
35	2	1	3	4	2	2	3	1	3	2	2	2	4	1	2	2	1	4	3	4	2	1	3	2	2	2	1	2	3	2
36	1	3	0	4	3	1	1	1	3	0	0	1	2	3	1	1	3	3	3	4	1	1	2	3	3	1	1	1	3	4
37	2	3	3	3	2	3	3	2	3	3	1	3	4	2	2	1	2	4	3	2	3	2	2	1	1	2	2	2	1	2
38	3	2	2	4	3	2	3	1	2	4	3	2	4	2	2	3	2	2	2	4	4	3	0	1	2	2	3	3	1	1
39	0	1	4	4	4	1	2	1	3	1	0	3	4	3	3	0	4	3	4	4	1	2	4	3	3	0	2	0	3	3
40	2	3	0	4	3	1	3	1	3	1	0	3	2	3	4	2	3	4	1	3	2	3	3	3	4	2	4	0	3	1
41	0	4	1	3	3	1	4	2	3	3	1	3	3	2	1	1	3	3	4	3	1	4	3	1	2	1	3	0	0	3
42	0	3	0	4	4	1	2	0	3	2	1	3	4	0	4	2	3	4	4	4	1	3	4	2	4	1	1	3	3	2
43	0	4	2	3	4	0	3	2	3	3	0	4	4	1	3	0	3	4	0	1	0	3	0	4	4	0	3	2	4	3
44	3	1	1	3	3	2	2	1	2	3	4	1		2	1	3	2	4	3	3	3	2	3	2	2	3	0	2	2	1
45	0	1	0	3	1	2	1	2	1	3	1	4	3	1	2	1	2	3	3	3	2	2	1	1	1	1	2	3	2	3
46	0	0	0	4	4	0	4	0	0	0	0	4	4	0	4	0	4	4	4	4	0	2	4	2	4	0	0	4	2	2
47	1	4	1	3	3		4	0	4	2	1	4	3	2	1	1	3	3	3	4	1	4	3	2	1	1	1	2	4	3
48	1	3	0	3	3	3	2	0	3	3	2	1	3	2	1	3	2	4	3	1	1	2	0	1	4	1	1	3	3	3
49	0	2	1	4	2	1	4	0	3	1	1	2	4	2	3	1	4	4	4	4	1	2	3	2	2	2	2	1	2	2

no	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
50	3	3	0	3	3	3	3	0	2	3	4	0	4	3	3	2	4	4	3	4	2	1	2	1	2	3	2	0	0	1
51	0	4	0	3	3	1	3	0	2	1	2	3	4	2	2	2	3	2	3	4	1	3	1	3	2	4	3	2	2	2
52	3	1	1	3	2	1	3	1	3	1	1	3	3	1	3	3	3	3	3	3	1	0	3	1	3	1	1	2	1	2
53	4	1	2	4	4	2	4	1	3	3	3	4	4	1	2	0	4	4	4	4	3	2	4	1	4	2	4	3	3	0
54	3	0	0	3	4	0	2	1	2	2	1	1	3	4	3	3	2	3	2	4	1	2	3	2	3	2	3	3	1	3
55	1	2	0	4	4	2	2	1	2	1	1	3	1	4	3	1	3	4	3	4	2	1	2	2	3	2	2	3	3	2
56	1	3	3	3	4	0		1	4	3	1	2	3	4	3	1	3	3	3	4	1	2	3	1	2	1	4	3	3	0
57	0	4	0	4	3	1	1	2	3	1	0	1	3	0	1	3	3	4	4	3	1	1	3	1	1	3	3	1	3	2
58	0	3	0	3	4	1	3	1	3	4	1	3	4	0	0	0	4	3	4	4	1	1	3	3	4	0	3	0	4	4
59	2	4	3	4	4	0	4	1	1	2	4	4	4	2	2	1	4	4	4	4	1	3	3	1	3	0	2	2	3	2
60	1	2	0	4	3	2	2	0	3	1	0	2	4	4	0	3	3	4	1	3	0	2	4	3	4	0	3	2	4	3
61	1	4	1	3	4	2	1	2	2	3	1	2	3	3	4	3	3	4	2	4	2	3	3	2	3	2	3	1	3	2
62	4	4	4	4	2	3	3	2	3	0	1	0	2	3	3	2	4	1	4	4	2	4	0	1	3	0	4	2	1	2
63	1	2	0	4	4	2	1	0	3	2	2	1	4	1	3	1	4	3	2	4	1	1	2	2	4	1	1	4	1	3
64	2	3	3	4	2	2	3	0	2	3	2	3	4	2	1	2	3	4	3	3	2	2	4	1	2	0	1	1	2	1
65	1	4	2	4	3	2	0	0	4	0	0	2	1	2	3	2	3	3	0	4	1	3	0	1	3	2	2	1	0	2
66	0	2	1	3	4		2	1	4	1	3	1	2	2	1	3	3	2	3	3	2	2	2	1	2	1	3	2	2	1
67	3	4	1	3	4	3	2	1	3	3	3	1	3	3	1	3	2	3	3	3	2	4	3	1	3	3	3	3	1	2
68	0	2	0	4	3	0	3	1	3	0	2	3	3	3	3	1	2	2	2	4	1	2	2	3	2	1	1	1	1	3
69	0	4	3	3	2	1	4	1	1	3	3	3	4	0	2	1	4	3	4	3	1	3	3	2	2	2	2	4	1	2
70	1	3	3	4	3	1	3	1	2	1	3	3	4	3	2	1	3	3	4	4	0	1	4	3	3	2	2	4	4	4
71	0	2	4	3	3	3	3	0	2	3	1	3	4	1	3	1	3	3	3	3	1	3	4	2	4	0	1	0	3	1
72	2	3	1	3	3	2	1	0	2	1	1	2	2	2	3	2	2	3	0	0	2	2	3	2	4	2	2	1	2	3
73	1	1	2	3	3	3	3	1	4	2	3	1	4	3	1	3	2	4	2	4	3	1	2	1	2	2	2	1	1	2
74	3	1	4	4	4	3	3	1	3	0	2	1	4	1	4	3	4	4	0	4	1	2	4	1	4	2	3	3	3	1
75	2	1	2	4	1	2	2	1	3	3	2	2	4	4	2	3	4	4	4	3	1	1	3	2	2	2	3	3	2	2
76	0	3	0	4	4	1	2	0	3	2	1	3	4	0	4	2	3	4	4	4	1	3	4	2	4	1	1	3	3	2
77	1	3	1	3	3	1	3	1	1	3	1	1	2	1	3	2	3	2	1	3	3	2	2	1	1	2	2	1	1	1
78	1	3	1	4	3	2	4	1	2	1	2	2	4	3	2	1	2	4	3	3	1	3	2	2	2	1	1	1	2	1
79	2	1	1	4	3	4	4	1	1	2	2	1	4	2	1	1	3	2	3	3	2	2	3	1	3	3	1	1	0	1
80	2	1	3	4	2	0	4	2	3	3	1	3	3	1	1	0	1	3	3	3	3	2	2	1	3	2	1	4	2	4
81	1	2	0	4	4	1	3	1	2	0	0	3	3	4	4	4	3	4	0	4	0	2	1	4	3	0	1	3	3	4
82	1	4	0	3	3	2	3	1	1	3	2	3	4	2	4	2	3	3	2	3	2	3	3	2	4	1	3	3	3	4
83	0	1	0	4	3	1	3	1	4	0	1	3	4	4	4	2	3	4	3	3	0	1	1	3	3	0	1	3	2	4
84	1	4	1	3	4	2	3	2	3	0	1	3	4	1	3	2	3	4	4	3	0	2	1	3	2	2	3	2	2	1
85	1	1	0	3	3	1	3	1	3	1	3	1	2	3	3	1	2	3	3	3	1	1	3	1	3	1	1	2	1	3
86	3	3	2	4	1	3	1	0	3	4	1	0	4	0	0	4	4	4	4	3	3	2	1	0	1	3	1	3	3	1
87	2	2	2	3	3	1	3	1	2	3	3	2	3	2	1	2	2	3	2	2	3	3	3	1	2	1	2	1	2	3
88	3	3	1	3	3	3	3	1	3	1	3	1	3	1	1	1	3	3	3	3	1	3	1	3	1	3	3	1	1	1
89	0	4	0	4	4	1	3	1	2	1	2	3	3	2	3	1	3	4	3	4	0	3	2	2	3	2	3	3	3	1

Table 11.25: Raw Data NEO-FFI –China (part2)

no	Q31	Q32	Q33	Q34	Q35	Q36	Q37	Q38	Q39	Q40	Q41	Q42	Q43	Q44	Q45	Q46	Q47	Q48	Q49	Q50	Q51	Q52	Q53	Q54	Q55	Q56	Q57	Q58	Q59	Q60
1	0	4	4	2	4	2	4	4	4	2	0	4	4	0	2	0	2	2	4	3	0	4	4	0	1	0	4	4	0	4
2	1	2	2	3	3	3	2	3	3	3	3	4	2	0	4	3	1	2	4	3	2	2	4	0	3	1	0	4	2	4
3	2	3	1	3	3	2	3	4	1	2	1	3	2	2	3	2	2	4	4	3	1	3	3	2	3	1	3	1	3	3
4	1	4	3	2	4	3	1	4	3	4	1	3	3	3	4	1	3	0	4	4	1	3	4	3	3	1	3	1	4	4
5	2	3	3	3	4	1	3	3	3	3	1	3	1	1	1	2	3	1	3	2	1	3	4	3	3	3	3	3	2	4
6	1	2	3	2	3	3	2	3	3	3	2	2	2	1	3	2	1	3	3	2	1	2	3	2	3	1	4	2	3	3
7	1	3	3	3	4	1	4	4	2	4	0	1	4	4	3	1	4	0	4	4	0	4	4	4	3	1	3	3	4	4
8	3	1	3	4	4	2	3	4	3	4	3	3	4	4	1	1	1	0	4	4	1	3	4	1	1	3	1	4	3	4
9	0	3	3	3	3	2	3	3	1	4	1	1	3	1	3	0	1	0	4	3	1	3	3	3	3	2	3	3	1	4
10	1	3	3	3	3	3	4	4	3	3	1	3	3	0	1	1	2	1	3	3	1	2	3	3	1	3	3	1	2	3
11	0	3	0	3	2	0	3	3	2	3	3	3	3	3	2	1	2	1	2	3	1	3	4	3	2	3	2	4	2	3
12	1	2	3	2	3	3	3	3	3	3	3	1	1	1	1	3	1	3	3	3	1	2	2	3	1	1	3	1	3	4
13	1	1	4	3	3	2	2	3	3	4	2	1	4	2	3	2	2	0	4	3	3	1	3	2	3	3	2	2	3	4
14	0	2	3	3	3	0	3	2	3	4	1	3	3	0	2	1	2	4	1	4	1	3	2	2	3	1	3	1	1	4
15	3	1	3	2	3	2	1	4	1	2	4	1	2	1	1	3	1	1	3	2	3	1	2	4	0	3	3	2	1	3
16	2	2	3	3	3	2	3	3	3	4	1	2	3	1	3	1	1	1	3	3	1	1	3	1	2	2	3	3	2	3
17	3	1	3	2	3	2	1	3	3	4	1	0	4	0	3	3	1	2	2	3	3	1	3	1	1	1	3	1	3	3
18	1	1	3	3	4	3	4	2	1	3	3	3	3	1	1	1	1	0	4	4	1	1	4	3	3	3	3	4	3	4
19	2	3	2	2	4	2	2	2	3	3	1	1	3	3	3	2	2	0	3	3	1	2	3	3	4	1	2	3	2	3
20	2	2	3	3	3	2	2	2	3	3	1	2	3	1	3	2	2	1	3	3	1	3	3	2	3	3	3	2	2	3
21	0	4	2	3	3	1	4	4	4	3	0	3	3	0	4	0	3	2	2	4	0	4	3	4	4	0	4	1	4	3
22	1	2	1	3	3	2	3	3	2	3	0	3	2	1		1	2	2	3	3	1	3	3	2	3	1	3	1	3	3
23	0	3	3	4	4	3	3	3	4	3	1	1	2	0	3	1	1	0	2	3	1	3	4	0	3	3	2	2	3	3
24	1	2	1	3	3	2	3	3	3	4	0	2	1	1	3	1	2	3	2	4	1	1	4	1	3	0	2	2	4	3
25	0	3	1	3	2	2	4	3	4	3	1	4	4	0	2	1	3	2	2	3	1	4	3	1	1	2	0	3	4	3
26	1	3	2	3	3	1	2	3	2	3	0	3	4	2	3	1	2	1	3	2	1	2	3	3	3	0	2	1	3	3
27	2	4	3	4	4	2	4	1	3	3	0	4	2	1	1	1	4	2	3	3	1	4	4	2	3	2	2	0	4	1
28	3	3	1	2	3	1	2	3	1	0	3	1	1	1	1	3	3	3	3	3	1	1	3	1	4	2	0	1	1	4
29	3	2	1	4	4	1	4	1	3	2	1	4	4	3	2	1	2	1	4	3	1	3	4	0	3	2	2	4	3	3
30	2	1	3	2	3	1	3	1	3	3	1	3	4	0	1	3	1	0	3	2	2	1	3	1	2	3	1	3	3	3
31	1	3	2	3	3	1	3	3	3	3	1	2	3	2	3	1	2	2	1	2	2	2	2	2	1	1	2	1	3	3
32	0	3	4	3	3	2	3	3	4	3	3	2	3	0	3	1	2	4	3	3	1	2	3	1	2	2	4	1	2	3
33	0	3	4	4	4	3	4	4	4	4	1	4	3	0	1	1	1	4	3	3	0	4	4	3	3	2	3	0	3	4
34	1	4	4	3		2	4	0	4	4	1	3	4	4	0	3	4	1	3	3	3	4	2	0	1	2	3	2	3	4
35	2	2	3	2	3	2	2	2	2	3	3	2	4	0	1	2	2	0	4	2	2	1	2	2	2	3	2	2	2	4
36	0	3	1	4	4	1	3	4	3	3	1	3	1	3	2	1	3	2	3	3	3	1	3	3	4	0	1	1	3	4
37	1	2	2	2	2	1	2	4	3	3	3	3	3	1	2	1	1	1	3	2	2	1	3	3	2	2	2	3	3	3
38	2	2	1	3	3	3	3	3	2	3	1	3	3	1	1	3	2	3	2	2	2	1	3	1	1	3	1	1	3	3
39	1	2	3	1	0	3	3	4	3	3	1	3	4	0	1	1	1	2	4	3	1	3	3	3	3	1	3	1	3	4
40	1	3	3	3	4	2	4	3	4	4	2	3	4	1	2	1	2	1	3	4	1	3	3	2	3	2	3	3	4	3
41	2	3	3	2	4	1	3	4	4	1	1	3	3	2	1	1	1	3	1	2	1	4	2	3	1	1	1	2	3	3
42	1	3	3	3	4	2	4	0	0	4	2	2	3	3	2	2	2	1	3	4	2	2	3	2	3	2	3	2	3	4
43	0	3	3	2	4	0	2	4	4	2	0	4	4	0	0	0	3	0	4	3	0	4	3	4	3	0	4	2	2	4
44	3	2	3	2	3	2	1	2	3	3	3	1	3	2	1	3	2	3	3	3	3	1	3	1	1	3	1	1	3	3
45	2	1	2	1	2		3	4	1	1	1	3	3	3	1	3	3	2	2	2	4	3	1	2	1	1	1	1	2	2
46	0	4	0	4	4	0	4	4	4	4	0	2	4	0	4	0	4	0	4	4	0	4	4	0	2	4	0	4	0	4
47	1	4	3	3	3	2	3	4	2	4	2	4	2	0	2	1	2	1	2	3	2	3	3	1	1	3	0	4	2	2
48	1	3	1	3	4	1	2	3	3	3	4	4	3	1	2	1	4	3	3	3	1	1	4	3	1	0	3	4	2	1
49	1	3	1	4	4	2	3	1	3	3	1	3	3	0	3	0	2	0	3	3	1	3	3	4	2	0	4	0	2	4

no	Q31	Q32	Q33	Q34	Q35	Q36	Q37	Q38	Q39	Q40	Q41	Q42	Q43	Q44	Q45	Q46	Q47	Q48	Q49	Q50	Q51	Q52	Q53	Q54	Q55	Q56	Q57	Q58	Q59	Q60
50	2	1	0	2	3	3	2	2	4	2	3	1	3	1	3	3	3	3	3	2	2	3	4	4	4	4	1	1	1	4
51	1	2	2	3	4	1	3	2	3	3	2	3	3	1	2	1	2	2	2	3	1	3	4	2	3	3	3	2	3	4
52	3	3	1	3	3	2	3	4	2	3	2	3	3	1	1	1	3	1	3	3	1	3	3	3	1	3	1	3	1	3
53	2	2	2	3	3	2	3	3	4	3	2	4	4	0	0	0	2	3	3	3	1	4	4	3	2	1	4	2	4	4
54	3	3	3	2	4	2	2	3	2	4	2	2	3	1	3	2	1	4	4	4	3	2	3	3	3	2	2	1	1	4
55	1	3	3	2	4	2	3	0	3	4	2	2	1	0	3	1	2	3	3	3	2	1	3	0	2	3	3	0	4	4
56	3	3	1	2	4	1	2	2	2	3	1	1	3	1	3	1	1	1	3	3	1	2	3	1	3	2	4	3	1	4
57	1	1	3	2	3	1	2	4	3	3	1	1	3	0	1	1	2	1	3	3	1	3	3	3	3	1	0	1	2	4
58	1	3	1	3	3	1	3	3	3	4	3	3	4	0	1	1	3	1	1	3	1	4	4	3	3	4	3	1	3	4
59	3	3	3	3	4	3	4	4	4	3	3	4	3	0	3	1	3	1	2	3	2	4	3	3	2	0	4	1	4	3
60	0	3	0	4	4	2	3	4	4	2	1	3	4	3	2	0	2	0	4	4	1	3	4	4	3	1	3	4	4	4
61	1	3	2	3	3	3	3	2	3	4	2	1	2	0	3	2	2	0	3	3	1	2	4	2	3	3	2	2	4	3
62	2	4	4	3	4	2	3	0	0	1	3	4	3	0	0	3	1	3	2	3	0	4	3	2	0	3	2	1	2	4
63	1	3	3	3	4	2	4	2	4	4	1	2	4	0	4	1	3	3	3	4	1	2	4	0	3	4	3	4	3	4
64	2	2	2	2	3	1	4	4	3	3	2	3	4	0	2	2	1	0	4	4	1	3	4	4	2	2	2	4	3	3
65	2	3	4	2	4	3	3	3	1	4	3	3	3	1	2	2	2	4	3	3	2	3	3	1	2	1	4	2	0	4
66	3	1	3	2	3	1	2	3	2	3	1	3	2	2	1	3	2	3	3	3	3	2	3	3	3	2	1	2	2	3
67	3	3	1	4	4	1	2	4	2	4	1	1	3	3	3	3	2	3	3	2	3	2	4	3	1	3	3	0	3	3
68	1	3	1	3	3	1	3	0	2	3	2	3	2	0	1	1	3	1	3	3	2	1	3	3	3	3	3	2	3	3
69	2	2	2	4	3	4	4	4	3	3	2	3	4	0	1	1	2	1	3	3	3	3	3	1	1	3	3	2	0	4
70	3	4	4	4	4	1	4	3	4	4	0	3	4	0	3	1	3	1	3	4	0	3	4	1	3	2	2	4	2	4
71	0	3	3	3	3	2	3	3	1	4	1	1	3	1	3	1	1	0	4	3	1	3	3	3	3	2	3	3	1	4
72	2	2	3	3	4	2	2	3	3	3	1	2	3	0	3	2	2	3	3	3	2	2	3	2	3	3	2	1	3	3
73	3	1	3	2	3	1	2	2	2	3	3	3	2	2	1	3	2	3	3	3	2	1	3	3	2	2	1	2	3	3
74	3	3	3	3	3	1	3	0	3	4	3	3	4	0	4	3	2	0	4	4	0	3	4	4	4	2	4	4	1	4
75	2	1	3	3	3	1	2	3	3	3	2	1	3	3	2	2	1	1	3	2	2	2	2	3	3	1	2	3	4	3
76	1	3	3	3	4	2	4	0	0	4	2	2	3	3	2	2	2	1	3	4	2	2	3	2	3	2	3	2	3	4
77	1	2	1	2	1	2	3	1	1	2	3	2	3	3	2	1	3	3	2	3	2	3	2	1	2	3	2	2	2	3
78	1	2	1	3	2	2	3	3	3	2	2	3	2	1	1	1	1	2	2	2	1	2	3	3	2	1	1	1	3	3
79	1	2	3	2	3	4	3	4	1	3	1	2	3	2	2	1	2	0	3	3	3	2	3	4	3	3	3	1	1	3
80	2	3	1	2	1	0	2	1	2	4	0	4	4	1	2	1	2	1	3	3	1	0	2	1	3	2	1	2	3	3
81	1	4	3	3	4	1	3	4	3	4	1	3	3	1	3	1	2	4	4	4	0	3	4	3	4	0	3	1	3	4
82	2	3	3	2	3	1	4	3	3	3	0	4	3	1	3	2	3	0	3	3	2	3	4	2	3	1	4	3	2	3
83	1	2	1	3	4	1	4	4	4	4	0	4	4	0	4	1	3	4	3	4	0	4	4	0	4	0	0	3	4	4
84	1	2	2	2	2	2	3	3	3	3	1	3	2	1	2	2	2	2	3	2	2	3	2	1	3	3	2	2	3	3
85	1	3	3	3	3	1	3	3	3	3	1	3	1	1	1	1	1	2	3	3	1	3	3	3	3	1	1	3	3	3
86	3	1	4	3	3	1	2	0	4	1	3	1	3	0	3	3	0	3	0	0	3	2	4	3	1	3	2	0	4	3
87	2	2	2	3	2	3	2	3	3	3	2	1	3	1	2	2	2	3	2	3	1	2	2	1	1	3	3	2	2	2
88	1	2	3	3	3	1	3	3	3	2	1	1	1	1	3	3	1	3	3	3	3	3	3	3	1	1	3	1	3	3
89	1	3	3	3	4	1	3	3	4	3	1	3	1	1	3	1	2	3	4	3	1	3	3	2	3	2	3	1	3	3

Table 11.26: Centred Scores NEO-FFI – China

no	Neuroticism	Extraversion	Openness	Agreeableness	Consciousness
1	-1,867	1,133	0,800	-0,367	0,300
2	-0,483	-0,400	0,100	-0,067	0,850
3	-0,683	0,233	-0,017	0,067	0,400
4	-1,100	0,067	0,067	-0,100	1,067
5	-0,817	0,350	0,017	0,183	0,267
6	-0,583	-0,083	0,083	0,083	0,500
7	-1,767	0,233	-0,017	0,650	0,900
8	-0,833	-0,083	0,500	0,417	0,000
9	-1,250	0,167	0,250	0,000	0,833
10	-1,017	0,650	0,233	-0,183	0,317
11	-0,667	0,583	-0,167	0,250	0,000
12	0,317	-0,183	-0,350	0,150	0,067
13	-0,367	-0,617	0,217	0,300	0,467
14	-1,400	0,517	0,100	0,267	0,517
15	0,567	-0,350	-0,267	0,233	-0,183
16	-0,783	-0,200	0,383	0,217	0,383
17	0,200	-0,467	0,200	-0,217	0,283
18	-0,367	-0,200	-0,117	-0,117	0,800
19	-0,750	-0,250	-0,333	0,250	1,083
20	-0,450	0,133	-0,283	0,133	0,467
21	-1,917	1,083	-0,083	0,500	0,417
22	-1,018	0,232	-0,018	0,232	0,626
23	-0,817	-0,150	0,100	0,517	0,350
24	-1,467	-0,217	0,033	0,533	1,117
25	-1,533	0,967	0,550	0,050	-0,033
26	-1,467	0,283	0,367	0,450	0,367
27	-0,967	0,950	-0,383	0,117	0,283
28	0,450	-0,050	-0,467	-0,383	0,450
29	-0,783	-0,117	0,133	0,467	0,300
30	-0,033	-0,033	0,133	0,050	-0,117
31	-0,967	0,450	-0,050	0,117	0,450
32	-0,717	0,283	0,033	0,283	0,117
33	-1,783	0,467	0,383	0,467	0,467
34	-0,360	0,806	-0,360	0,056	-0,156
35	-0,050	-0,550	0,283	0,117	0,200
36	-1,233	-0,150	-0,400	1,017	0,767
37	-0,417	-0,083	0,500	0,083	-0,083
38	0,300	-0,033	-0,117	-0,283	0,133
39	-1,467	0,117	0,450	0,533	0,367
40	-1,033	0,550	-0,283	0,300	0,467
41	-1,200	0,800	0,217	0,133	0,050
42	-1,017	0,150	-0,183	0,067	0,983
43	-2,250	1,083	0,250	0,333	0,583
44	0,679	-0,904	0,126	0,096	0,013
45	-0,279	0,251	0,168	-0,082	-0,082
46	-1,867	0,467	0,467	-0,200	1,133
47	-0,884	0,661	0,078	-0,006	0,078
48	-0,650	0,100	0,100	0,267	0,183
49	-1,283	0,633	-0,450	0,550	0,550
50	0,467	-0,367	-0,450	-0,117	0,467
51	-0,750	0,583	-0,333	0,083	0,417

no	Neuroticism	Extraversion	Openness	Agreeableness	Consciousness
52	-0,333	0,083	0,167	-0,083	0,167
53	-0,850	0,483	0,317	0,067	-0,017
54	-0,400	-0,567	0,100	-0,150	1,017
55	-0,583	0,000	-0,500	0,250	0,833
56	-1,105	0,183	0,145	0,062	0,729
57	-0,833	-0,167	0,333	0,333	0,333
58	-1,217	0,617	-0,300	0,117	0,783
59	-1,017	0,900	-0,017	-0,100	0,233
60	-1,533	0,133	0,050	1,050	0,300
61	-0,533	-0,033	-0,283	0,050	0,800
62	-0,217	0,783	-0,217	-0,217	-0,133
63	-0,950	-0,200	0,300	-0,283	1,133
64	-0,717	0,117	0,450	0,117	0,033
65	-0,450	0,467	-0,033	-0,617	0,633
66	-0,186	-0,186	-0,020	0,230	0,147
67	0,017	-0,150	-0,150	0,100	0,183
68	-0,800	0,367	-0,550	0,450	0,533
69	-0,500	0,667	0,417	-0,583	0,000
70	-1,433	0,150	0,567	0,150	0,567
71	-1,183	0,150	0,233	-0,017	0,817
72	-0,267	-0,183	-0,017	-0,100	0,567
73	0,150	-0,600	0,150	0,150	0,150
74	-0,500	0,000	0,250	-0,417	0,667
75	-0,550	-0,550	0,283	0,783	0,033
76	-1,017	0,150	-0,183	0,067	0,983
77	-0,133	0,450	-0,217	-0,383	0,283
78	-0,717	0,200	0,033	0,533	-0,050
79	0,033	-0,050	-0,050	-0,217	0,283
80	-0,900	-0,067	0,267	0,100	0,600
81	-1,650	0,183	0,100	0,350	1,017
82	-1,050	0,783	-0,050	-0,383	0,700
83	-1,817	0,017	0,350	0,433	1,017
84	-0,683	0,483	-0,017	0,150	0,067
85	-0,917	-0,167	0,083	0,417	0,583
86	0,600	-0,567	0,183	0,183	-0,400
87	-0,083	0,000	0,167	-0,167	0,083
88	-0,200	0,217	-0,200	0,300	-0,117
89	-1,317	0,600	-0,150	0,350	0,517

Table 11.27: Raw Data WPI – China

no	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
1	4	4	4	4	4	2	2	4	2	3	4	4	4	2	4	2	4	3	0	2	2	1	4	4	4	4	4	4	4	4
2	2	3	0	3	4	3	3	3	2	2	3	1	1	4	2	3	4	0	2	4	4	2	3	3	1	3	3	2	3	4
3	3	1	3	1	3	1	1	3	3	3	1	1	1	3	3	2	4	0	2	4	1	1	4	3	3	4	3	3	2	2
4	1	3	2	3	4	1	3	1	3	2	2	1	2	1	3	2	3	2	3	3	3	3	2	2	2	3	3	2	3	2
5	0	0	4	4	4	1	4	3	3	3	4	4	4	1	4	4	3	1	3	1	1	3	4	4	4	4	4	4	4	1
6	3	4	3	4	4	0	3	3	3	3	4	3	2	1	3	3	3	0	3	1	3	3	2	4	4	3	4	4	4	3
7	4	3	3	3	4	1	1	3	1	2	3	3	3	0	2	0	1	3	4	2	3	1	4	4	3	4	3	4	1	3
8	4	3	4	2	4	3	3	4	2	2	3	3	4	3	3	2	3	0	3	4	4	2	3	3	3	4	2	4	2	4
9	1	2	3	1	4	3	3	4	3	3	3	2	3	0	3	3	4	1	1	3	2	0	3	1	4	4	4	3	2	3
10	3	3	1	3	4	0	3	3	0	2	2	2	3	1	3	3	4	2	2	4	2	2	3	4	3	1	3	3	4	4
11	4	4	2	4	3	3	3	3	1	2	2	3	2	0	3	3	3	1	3	2	3	3	3	4	3	2	3	3	3	2
12	3	4	4	4	3	1	3	4	3	3	3	3	4	0	4	3	4	4	4	4	4	3	4	4	3	4	4	4	4	2
13	0	1	3	2	4	2	3	3	3	1	2	3	3	2	2	3	3	1	1	3	1	3	3	2	3	3	2	3	2	3
14	2	3	2	2	3	2	3	3	1	3	2	3	2	2	3	3	3	0	2	3	2	2	2	3	3	3	2	3	2	2
15	1	3	4	3	4	1	3	1	3	3	3	1	3	3	3	3	3	1	3	3	2	2	3	3	3	3	3	3	4	3
16	3	3	4	4	4	1	3	4	4	3	4	3	4	3	3	4	4	0	4	3	2	3	4	4	3	4	3	3	1	3
17	1	1	4	2	4	3	4	2	3	2	4	1	4	3	4	2	3	2	3	4	4	2	4	4	3	4	3	3	3	3
18	4	2	0	4	3	0	2	3	2	4	1	0	0	2	3	4	4	0	3	4	2	3	4	2	0	3	4	4	2	3
19	1	3	1	3	3	3	4	4	1	1	3	4	1	0	0	3	3	1	3	3	3	1	4	3	3	1	3	2	1	4
20	2	1	2	4	4	3	3	3	0	4	4	1	3	1	3	4	4	1	3	3	3	1	4	4	4	3	4	4	3	3
21	2	2	3	3	4	3	3	4	2	2	2	3	2	1	3	2	3	1	1	3	2	3	4	4	4	3	2	3	2	4
22	1	1	3	3	4	3	2	3	3	3	2	1	3	2	3	3	3	0	3	4	2	3	2	3	3	2	3	2	3	3
23	1	3	3	3	3	2	3	3	2	2	3	3	3	2	2	2	3	1	2	3	2	2	3	2	3	3	1	3	1	3
24	1	2	3	1	3	2	3	3	2	1	2	3	2	1	2	2	3	2	2	3	2	2	2	3	3	3	2	2	2	2
25	1	2	3	3	3	2	3	3	1	2	2	2	3	1	3	2	3	1	1	3	3	2	1	1	3	3	2	3	3	3
26	3	2	3	1	3	3	3	4	3	1	2	3	2	1	1	2	4	0	2	3	1	2	2	4	2	2	1	3	1	3
27	2	3	2	1	3	2	2	3	1	1	3	3	2	2	3	2	2	1	2	3	2	2	3	2	3	2	2	2	2	3
28	1	3	2	2	3	2	3	2	1	2	4	3	3	1	3	2	3	1	2	3	3	3	4	3	3	3	3	3	2	4
29	1	3	2	3	3	2	3	3	2	2	3	3	2	2	2	3	3	2	3	2	3	2	3	3	3	3	1	2	1	2
30	3	3	3	2	3	3	3	3	1	3	1	3	3	3	3	2	3	1	1	3	1	3	4	3	4	3	2	3	2	3
31	3	1	3	3	3	1	3	4	3	1	3	3	3	3	1	3	3	1	2	3	2	3	3	3	4	3	1	3	2	3
32	3	3	3	2	4	4	3	3	1	2	3	3	3	1	3	3	3	0	3	4	4	3	4	4	3	3	2	3	3	3
33	2	3	4	3	3	3	3	3	2	1	2	1	3	2	3	2	3	2	3	4	3	1	3	3	3	3	3	3	3	3
34	4	4	2	2	4	3	3	3	2	1	1	1	2	2	4	3	4	1	3	3	2	1	4	4	4	2	2	4	4	3
35	1	3	2	2	3	3	2	3	1	2	2	2	3	1	3	2	3	2	3	3	2	3	2	3	3	3	3	3	3	3
36	0	3	3	3	4	1	3	4	2	2	4	3	2	3	3	3	2	4	2	3	4	1	4	4	3	3	3	4	3	4
37	2	4	3	2	4	3	3	3	0	2	4	3	3	2	3	3	3	1	2	2	2	2	3	3	3	3	3	4	3	3
38	1	3	3	3	3	3	2	3	1	2	2	3	2	1	2	2	2	1	2	3	3	2	3	2	3	2	3	3	2	3
39	3	4	4	3	3	2	3	3	1	3	4	3	2	1	3	2	4	4	2	4	4	2	2	3	3	3	3	4	3	3
40	1	3	4	2	3	1	3	2	3	2	3	1	2	1	3	1	3	0	2	4	2	0	4	3	3	3	3	3	2	4
41	1	3	4	3	4	1	3	1	3	3	3	1	3	3	3	3	3	1	3	3	2	2	3	3	3	3	3	3	4	3
42	3	3	4	1	4	3	2	4	3	1	3	0	4	3	3	3	4	0	2	4	1	1	4	4	4	4	4	4	4	4
43	1	3	3	2	3	3	3	3	2	3	3	1	2	2	3	3	3	2	2	3	2	3	3	3	3	3	2	3	3	3
44	1	3	3	2	3	3	3	3	2	3	3	1	2	2	3	3	3	2	2	3	2	3	3	3	3	3	2	3	3	3
45	2	3	3	3	3	4	1	3	3	2	3	1	1	1	2	3	3	0	2	4	2	1	2	4	3	2	3	2	1	3
46	0	1	0	0	3	0	1	4	0	0	4	2	4	0	0	3	2	0	0	4	4	0	4	4	4	4	4	4	4	4
47	4	4	3	3	3	3	1	3	1	2	1	1	2	2	2	3	3	1	3	3	3	2	2	3	3	3	2	3	3	3
48	1	3	3	1	3	1	3	4	1	1	3	3	3	2	1	1	2	0	2	4	2	0	3	3	3	2	3	3	1	4
49	4	3	4	4	4	2	1	3	2	3	4	1	3	3	2	4	4	0	3	4	4	2	4	4	4	4	4	4	3	4

no	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
50	1	3	3	1	3	1	3	4	1	1	3	3	4	3	2	1	1	1	1	3	2	1	4	4	3	3	3	3	3	3
51	3	1	2	1	3	3	3	3	2	1	2	1	1	1	3	3	3	3	2	3	3	1	3	2	3	3	3	3	3	3
52	1	1	3	3	4	4	3	2	3	4	4	1	4	1	3	3	3	0	1	4	4	2	4	4	4	4	2	4	2	4
53	2	3	2	3	3	3	2	3	2	1	3	1	1	1	3	3	3	4	1	3	3	3	0	3	4	3	3	4	3	3
54	1	3	2	3	3	3	2	3	0	4	4	1	3	2	1	1	1	3	1	3	2	1	2	1	3	2	1	2	3	1
55	1	3	1	4	3	3	3	1	3	4	3	1	0	1	1	3	3	3	4	3	1	3	1	1	3	3	1	3	3	3
56	1	3	2	3	4	1	2	4	1	3	2	2	3	1	4	3	4	1	3	3	3	2	2	3	4	3	2	3	2	4
57	0	3	4	3	4	0	3	4	2	1	2	4	3	1	2	2	3	1	2	4	1	3	4	2	4	3	2	3	3	4
58	3	3	2	4	3	0	1	2	1	4	1	0	2	2	3	4	3	0	4	3	2	3	2	3	4	1	2	4	3	2
59	3	3	3	2	3	2	2	3	3	2	3	3	3	2	3	2	3	1	2	3	3	2	3	3	3	3	3	3	1	3
60	1	3	2	2	3	3	3	4	0	0	3	3	3	2	2	2	3	1	2	4	3	0	3	3	2	3	3	3	2	4
61	3	3	2	3	3	3	3	2	1	3	3	3	2	1	3	4	3	3	3	3	3	3	3	3	3	2	4	4	4	4
62	1	4	3	2	2	2	3	3	0	2	4	2	4	3	3	3	4	2	3	4	4	2	4	4	4	4	4	4	4	4
63	3	3	3	3	4	3	1	1	3	3	1	3	3	3	3	4	3	1	3	3	3	3	3	3	4	3	1	4	2	3
64	4	3	4	3	3	3	1	3	0	2	4	0	1	3	4	3	4	1	3	4	1	3	3	4	4	4	3	4	4	3
65	0	0	4	0	4	4	4	4	4	2	4	4	4	3	0	1	3	0	1	4	0	0	4	4	3	4	4	3	4	4
66	3	3	3	1	4	1	2	3	3	2	3	3	2	3	1	3	3	0	2	3	0	1	3	3	3	2	3	3	3	1
67	3	1	2	3	3	1	4	4	1	3	1	4	3	0	3	2	3	1	4	4	3	0	4	4	4	3	3	4	2	4
68	3	3	1	0	3	2	2	3	2	1	3	3	3	0	3	3	3	1	0	4	1	1	2	1	3	2	1	3	1	4
69	1	2	3	3	3	1	2	3	2	1	3	3	3	2	1	2	3	1	1	3	3	1	3	3	3	3	3	3	1	4
70	1	3	3	3	4	3	3	3	2	3	4	3	3	0	2	3	4	1	3	3	3	3	3	3	3	3	3	4	3	2
71	2	3	3	2	3	2	3	3	1	3	3	2	3	2	3	3	2	3	3	3	3	2	4	4	3	3	4	3	3	3
72	1	4	4	4	4	4	4	4	3	1	4	4	3	4	0	2	3	0	3	4	1	1	4	3	3	4	2	3	1	4
73	3	3	3	4	1	3	1	4	2	3	4	4	0	0	3	4	3	1	3	4	2	1	2	4	2	2	3	1	4	3
74	2	4	3	3	4	0	3	4	2	3	2	3	3	3	3	3	2	1	2	2	3	2	3	3	3	3	2	4	3	3
75	3	3	4	4	4	2	4	3	0	4	3	3	2	0	3	3	4	1	3	3	2	3	3	3	4	4	3	3	3	3
76	2	3	3	3	4	3	3	4	2	2	4	2	4	3	3	2	3	2	3	3	3	2	3	4	2	4	3	3	3	2
77	1	3	3	2	3	4	4	4	1	3	3	4	3	0	3	3	4	0	2	2	3	0	3	3	3	4	3	3	3	3
78	2	2	4	3	3	1	4	4	1	2	1	3	4	3	2	3	2	2	2	4	2	0	2	4	2	4	2	2	2	2
79	3	3	3	3	3	4	3	3	0	3	4	4	4	2	4	3	3	1	4	4	3	2	3	4	4	4	4	4	4	4
80	1	2	4	1	3	1	1	1	3	1	4	3	4	3	2	2	4	0	2	4	3	0	4	4	4	4	3	4	2	4
81	4	4	2	4	3	3	3	1	2	4	2	1	2	3	4	4	4	2	4	3	4	3	2	4	4	4	4	4	4	3
82	2	4	3	3	3	1	3	2	1	2	2	3	2	0	3	3	3	3	3	1	3	3	3	3	3	2	1	3	3	2
83	2	2	2	2	3	1	3	3	1	2	1	2	2	2	2	2	3	1	3	3	2	2	3	2	2	2	2	2	3	3
84	4	3	2	2	3	2	3	2	1	2	1	1	2	1	3	2	3	1	3	2	3	2	3	3	2	3	1	3	1	2
85	1	4	2		3	2	1	3	0	1	3	2	3	1	1	1	4	0	0	4	4	0	4	3	4	3	3	3	0	4
86	3	3	2	3	4	4	3	3	1	4	2	3	2	1	4	4	3	3	4	2	3	1	3	4	3	1	3	3	3	2
87	3	4	3	2	3	3	4	3	2	4	1	1	2	1	3	3	3	1	3	2	4	1	3	2	1	3	0	2	3	4
88	4	3	3	4	3	1	3	3	1	2	3	3	2	1	3	3	3	1	3	2	3	3	1	2	3	3	2	3	2	2
89	3	3	3	3	3	1	1	3	1	3	3	3	3	1	3	3	3	3	3	3	3	1	3	3	3	3	3	3	2	3

Table 11.28: Centred Scores WPI – China

no.	Primary Scale		Secondary Scale			
	Intrinsic Motivation	Extrinsic Motiation	Enjoyment Scale	Challenge Scale	Outward Scale	Compensation Scale
1	0,233	-0,233	0,267	0,195	0,267	-1,233
2	0,300	-0,300	0,683	-0,138	-0,367	-0,167
3	0,033	-0,033	0,258	-0,224	-0,067	0,033
4	-0,033	0,033	-0,025	-0,043	-0,100	0,300
5	0,500	-0,500	0,700	0,271	-0,500	-0,500
6	0,067	-0,067	0,042	0,095	-0,233	0,267
7	0,433	-0,433	0,208	0,690	-0,867	0,433
8	-0,033	0,033	0,258	-0,367	0,033	0,033
9	0,300	-0,300	0,050	0,586	-0,500	0,100
10	0,200	-0,200	0,217	0,181	-0,533	0,467
11	0,633	-0,633	0,883	0,348	-0,467	-0,967
12	0,133	-0,133	0,633	-0,438	-0,367	0,333
13	0,200	-0,200	0,583	-0,238	-0,067	-0,467
14	0,367	-0,367	0,642	0,052	-0,233	-0,633
15	0,000	0,000	0,517	-0,590	0,367	-0,733
16	0,000	0,000	-0,025	0,029	-0,100	0,200
17	0,000	0,000	0,258	-0,295	0,133	-0,267
18	0,500	-0,500	0,283	0,748	-0,367	-0,767
19	0,200	-0,200	0,358	0,019	-0,167	-0,267
20	0,000	0,000	0,283	-0,324	0,033	-0,067
21	0,067	-0,067	0,400	-0,314	-0,200	0,200
22	0,200	-0,200	0,300	0,086	0,000	-0,600
23	0,400	-0,400	0,383	0,419	-0,467	-0,267
24	0,533	-0,533	0,542	0,524	-0,633	-0,333
25	0,267	-0,267	0,683	-0,210	-0,067	-0,667
26	0,667	-0,667	1,050	0,229	-0,400	-1,200
27	0,300	-0,300	0,100	0,529	-0,200	-0,500
28	-0,200	0,200	-0,083	-0,333	-0,333	1,267
29	0,500	-0,500	0,808	0,148	-0,567	-0,367
30	0,533	-0,533	0,667	0,381	-0,433	-0,733
31	0,333	-0,333	0,350	0,314	-0,400	-0,200
32	-0,133	0,133	0,092	-0,390	0,367	-0,333
33	-0,300	0,300	0,008	-0,652	-0,267	1,433
34	0,067	-0,067	0,258	-0,152	-0,067	-0,067
35	0,133	-0,133	0,300	-0,057	0,100	-0,600
36	0,133	-0,133	1,042	-0,905	-0,133	-0,133
37	0,167	-0,167	0,300	0,014	0,000	-0,500
38	0,300	-0,300	0,475	0,100	-0,100	-0,700
39	0,367	-0,367	0,308	0,433	-0,467	-0,167
40	0,133	-0,133	0,292	-0,048	-0,133	-0,133
41	0,400	-0,400	0,292	0,524	-0,333	-0,533
42	0,133	-0,133	0,275	-0,029	-0,200	0,000
43	0,200	-0,200	1,100	-0,829	-0,900	1,200
44	0,233	-0,233	0,558	-0,138	-0,167	-0,367
45	0,000	0,000	-0,192	0,219	0,033	-0,067
46	1,133	-1,133	1,083	1,190	-0,767	-1,867
47	0,467	-0,467	0,975	-0,114	-0,100	-1,200
48	0,733	-0,733	0,633	0,848	-0,767	-0,667
49	0,733	-0,733	0,817	0,638	-0,433	-1,333

no.	Primary Scale		Secondary Scale			
	Intrinsic Motivation	Extrinsic Motiation	Enjoyment Scale	Challenge Scale	Outward Scale	Compensation Scale
51	0,000	0,000	0,317	-0,362	0,267	-0,533
52	0,533	-0,533	0,600	0,457	-0,100	-1,400
53	0,167	-0,167	1,050	-0,843	-0,100	-0,300
54	0,133	-0,133	0,325	-0,086	-0,300	0,200
55	0,333	-0,333	0,683	-0,067	0,033	-1,067
56	0,200	-0,200	0,583	-0,238	0,033	-0,667
57	0,067	-0,067	0,092	0,038	0,167	-0,533
58	0,267	-0,267	0,067	0,495	-0,633	0,467
59	0,033	-0,033	0,808	-0,852	0,033	-0,167
60	0,400	-0,400	0,375	0,429	-0,200	-0,800
61	0,067	-0,067	0,325	-0,229	0,000	-0,200
62	-0,367	0,367	0,058	-0,852	0,333	0,433
63	-0,033	0,033	0,350	-0,471	-0,200	0,500
64	0,333	-0,333	0,283	0,390	-0,267	-0,467
65	-0,367	0,367	-0,167	-0,595	0,233	0,633
66	-0,167	0,167	0,000	-0,357	0,200	0,100
67	-0,167	0,167	-0,392	0,090	0,033	0,433
68	0,167	-0,167	0,175	0,157	-0,200	-0,100
69	-0,033	0,033	0,267	-0,376	0,167	-0,233
70	0,733	-0,733	0,525	0,971	-0,400	-1,400
71	0,300	-0,300	0,050	0,586	-0,500	0,100
72	0,267	-0,267	0,275	0,257	-0,100	-0,600
73	-0,233	0,233	0,350	-0,900	0,200	0,300
74	0,300	-0,300	0,333	0,262	-0,467	0,033
75	0,167	-0,167	0,633	-0,367	0,133	-0,767
76	0,133	-0,133	0,275	-0,029	-0,200	0,000
77	0,067	-0,067	0,417	-0,333	-0,033	-0,133
78	-0,367	0,367	-0,183	-0,576	0,367	0,367
79	-0,467	0,467	-0,050	-0,943	0,500	0,400
80	-0,067	0,067	0,158	-0,324	0,033	0,133
81	0,600	-0,600	0,842	0,324	-0,433	-0,933
82	0,267	-0,267	0,458	0,048	-0,067	-0,667
83	0,667	-0,667	1,242	0,010	-0,233	-1,533
84	-0,067	0,067	0,175	-0,343	0,100	0,000
85	0,133	-0,133	0,400	-0,171	0,000	-0,400
86	0,526	-0,564	1,043	-0,064	-0,107	-1,366
87	0,167	-0,167	0,583	-0,310	-0,267	0,033
88	-0,167	0,167	-0,125	-0,214	0,000	0,500
89	-0,033	0,033	0,117	-0,205	0,067	-0,033

Table 11.29: Raw Data SVS – China (part 1)

no	V1	V2	V3	V4	V5	V6	V7	V8	V9	V10	V11	V12	V13	V14	V15	V16	V17	V18	V19	V20	V21	V22	V23	V24	V25	V26	V27	V28	V29	V30
1	5	6	6	7	5	6	3	6	0	7	6	6	6	7	6	6	5	0	5	6	5	6	6	6	7	7	6	7	5	5
2	3	7	2	1	3	2	4	7	3	7	6	-1	6	7	3	6	7	2	3	5	6	3	6	2	5	6	2	3	4	5
3	5	3	4	4	5	4	4	4	3	6	5	5	5	5	3	4	4	3	4	4	4	5	5	3	5	4	5	6	3	4
4	2	5	3	5	6	6	6	6	-1	7	4	4	7	7	5	6	7	5	7	6	6	7	6	4	5	6	3	7	7	7
5	3	3	3	3	3	3	6	3	3	3	3	3	3	6	3	6	3	3	3	6	3	3	3	3	6	3	3	7	3	3
6	7	7	3	5	7	6	7	6	5	7	6	4	6	7	4	6	6	5	6	6	7	7	6	5	3	5	2	7	6	6
7	6	5	2	3	4	4	4	3	4	5	5	4	2	4	3	3	3	4	4	4	4	4	3	4	3	3	2	7	3	2
8	3	4	0	3	5	4	5	3	2	4	4	5	6	6	3	4	4	3	6	4	4	6	5	2	4	5	-1	7	4	5
9	3	4	3	6	7	5	5	5	2	6	6	3	6	7	6	6	5	2	6	6	6	6	6	5	6	6	0	6	6	6
10	6	6	1	5	5	5	5	5	3	4	5	3	7	6	4	4	6	6	5	5	5	6	3	6	4	3	-1	5	6	6
11	6	6	3	6	4	2	6	6	3	6	5	2	5	5	5	5	3	2	5	5	6	6	4	3	2	5	1	6	3	3
12	0	6	4	7	5	6	6	3	3	4	5	5	6	5	5	2	5	5	4	4	1	7	3	5	5	5	3	6	3	3
13	3	4	2	3	5	4	4	6	-1	6	6	3	6	5	5	6	6	0	7	6	6	7	4	1	0	5	2	6	1	3
14	1	3	0	3	2	6	3	6	0	6	6	5	3	3	5	5	2	2	6	6	4	7	4	1	2	3	1	7	1	3
15	6	7	3	6	6	6	3	3	0	-1	0	7	6	6	3	3	6	0	0	3	3	6	3	3	6	6	3	6	7	6
16	5	4	4	6	6	5	4	3	5	7	5	3	4	6	5	7	1	2	3	3	5	6	7	2	5	6	5	6	4	5
17	6	3	0	3	7	5	3	7	3	6	5	4	7	6	3	6	5	2	5	6	6	6	5	2	6	6	1	6	5	7
18	3	6	0	2	3	6	6	7	1	6	3	3	7	7	3	6	6	0	6	7	6	6	6	3	3	4	2	6	5	6
19	5	6	2	4	7	7	6	7	4	6	5	1	7	6	4	4	5	2	4	3	6	7	2	2	3	4	0	6	2	6
20	-1	4	4	5	6	7	5	6	4	6	6	5	6	6	6	6	5	6	6	6	5	6	5	3	5	6	5	6	5	5
21	1	5	1	5	5	6	5	6	3	6	5	4	6	6	3	6	6	5	6	4	5	6	5	5	7	7	2	6	7	6
22	3	4	2	3	5	4	6	5	2	6	6	3	6	5	3	4	5	6	3	6	3	6	7	3	2	3	0	6	3	7
23	7	7	-1	3	4	4	6	5	3	6	6	6	6	6	5	5	5	5	7	6	3	5	5	6	6	6	-1	6	7	5
24	7	3	2	3	7	2	3	3	4	6	3	2	3	6	-1	5	6	4	3	5	3	3	2	3	4	4	0	6	4	4
25	4	3	5	3	5	2	4	4	-1	5	5	7	2	4	3	2	3	3	4	5	6	7	4	2	1	6	4	4	1	2
26	7	7	2	2	6	6	7	7	4	6	7	5	7	6	4	5	5	4	7	6	6	7	6	5	6	5	3	6	6	6
27	4	6	-1	6	5	5	6	3	2	7	4	4	4	4	0	7	5	3	6	6	4	6	1	0	1	7	-1	6	6	3
28	4	7	2	4	6	6	4	5	3	3	3	3	2	6	4	3	2	1	4	5	4	5	3	5	3	4	-1	5	4	3
29	1	6	3	5	1	6	5	4	2	6	4	3	6	6	5	4	3	5	5	7	5	6	5	3	4	4	3	6	3	4
30	6	6	-1	2	7	5	3	4	1	7	1	1	7	6	3	6	7	2	4	6	3	7	2	3	2	6	-1	7	5	3
31	6	5	0	5	5	2	7	3	3	7	6	3	6	7	3	6	5	3	3	3	4	7	5	3	3	4	0	6	4	5
32	6	7	6	6	7	7	7	6	0	6	3	3	6	7	5	5	7	3	6	6	5	7	7	3	3	7	3	7	6	3
33	3	2	2	4	6	6	5	6	0	6	6	1	6	6	5	7	6	6	4	6	6	5	6	5	4	5	3	6	5	6
34	5	6	5	6	7	6	7	4	3	7	4	5	4	6	5	5	4	4	6	5	5	6	7	3	6	6	5	6	5	6
35	7	5	2	5	7	6	4	3	0	5	5	1	4	6	5	7	3	4	5	3	6	6	6	3	2	5	1	6	1	6
36	5	4	5	6	5	6	2	3	5	4	6	3	6	3	4	4	4	3	3	4	5	4	4	3	3	3	4	3	3	3
37	4	7	3	7	4	6	4	5	2	4	4	3	3	5	4	4	2	5	5	5	4	6	5	5	4	6	3	6	5	4
38	6	3	3	4	6	6	6	6	1	6	3	3	6	6	3	3	3	3	3	3	3	7	6	3	3	3	3	5	3	3
39	3	5	3	3	3	5	4	7	3	6	3	2	7	3	4	4	2	2	5	4	4	7	5	5	7	7	3	7	4	4
40	7	3	2	5	6	4	5	6	3	7	5	5	6	6	5	7	5	2	5	5	5	6	7	5	2	6	-1	6	5	6

no	V1	V2	V3	V4	V5	V6	V7	V8	V9	V10	V11	V12	V13	V14	V15	V16	V17	V18	V19	V20	V21	V22	V23	V24	V25	V26	V27	V28	V29	V30
41	6	3	-1	6	6	5	4	3	5	7	6	3	6	6	4	5	6	4	5	3	4	6	7	2	5	3	-1	7	3	5
42	5	6	0	7	7	7	6	7	-1	7	7	3	7	7	6	6	7	5	7	6	6	7	7	6	6	7	0	7	5	3
43	6	6	3	6	6	5	7	6	3	6	6	3	6	0	6	6	6	6	6	6	6	6	6	5	5	6	3	6	5	5
44	6	6	3	6	6	5	7	6	3	6	6	3	6	0	6	6	6	6	6	6	6	6	6	5	5	6	3	6	5	5
45	3	4	0	2	3	4	4	5	1	6	5	5	6	5	4	4	5	3	2	3	6	5	5	1	7	3	0	5	3	2
46	6	6	3	6	6	6	6	6	3	7	5	5	6	6	5	6	6	5	6	6	6	7	6	6	6	5	2	7	5	7
47	3	2	4	3	4	3	3	2	4	1	3	3	3	3	3	3	2	1	3	4	3	4	3	2	3	3	4	3	2	3
48	4	6	-1	3	5	5	3	4	5	4	4	3	3	3	4	3	3	2	5	3	3	6	3	5	7	5	2	5	5	3
49	6	6	0	3	4	6	7	7	3	7	6	3	7	7	4	0	3	3	6	6	5	7	7	0	6	4	3	6	6	6
50	6	6	3	6	6	6	3	6	3	7	6	3	6	6	3	6	6	3	6	6	6	6	6	6	6	6	3	6	6	6
51	3	1	4	3	7	6	6	4	4	7	5	5	6	6	5	5	3	5	6	5	5	7	6	4	5	6	3	4	4	5
52	6	3	0	2	5	6	5	7	3	6	4	3	7	6	5	7	6	5	6	5	5	7	5	4	5	7	4	7	5	5
53	1	2	-1	4	2	3	2	1	0	3	2	3	2	5	0	4	3	2	1	2	0	3	4	2	5	6	1	3	7	2
54	7	4	0	5	7	6	7	5	2	6	6	3	3	6	5	4	5	2	4	7	5	5	6	4	3	4	2	7	4	6
55	3	6	4	2	3	5	7	4	0	3	6	5	1	3	5	4	3	2	3	4	2	6	7	4	5	5	6	7	5	6
56	4	4	0	4	5	5	6	5	2	7	3	3	5	5	3	3	5	3	4	6	6	6	4	2	2	3	0	6	2	4
57	7	5	4	7	6	7	6	6	7	7	7	3	7	6	6	7	6	6	7	7	6	6	6	5	7	6	5	6	7	7
58	0	3	0	6	6	6	5	6	0	7	6	6	6	7	3	5	5	4	6	4	6	7	6	4	7	7	0	7	5	4
59	4	3	-1	4	5	6	5	5	3	7	4	4	4	6	6	7	4	4	6	5	6	7	7	6	7	7	2	6	5	5
60	3	3	3	4	7	4	6	7	1	3	4	2	5	5	4	4	2	4	6	5	6	6	2	7	5	4	1	7	5	4
61	7	6	1	6	6	3	6	7	5	6	6	3	7	6	3	5	7	0	7	6	3	7	6	3	5	3	0	6	4	3
62	4	5	-1	6	7	6	6	4	3	6	6	0	4	7	4	5	4	4	3	5	7	6	6	5	4	2	1	7	4	4
63	6	5	0	6	7	4	6	1	3	6	6	4	5	6	4	6	4	3	5	6	6	7	6	4	3	5	1	6	4	6
64	2	5	0	5	2	6	6	7	0	6	6	5	5	7	7	5	3	0	7	5	7	7	6	4	5	6	-1	6	4	6
65	7	3	-1	7	7	7	3	7	7	7	3	-1	7	7	7	7	3	3	7	3	7	7	7	7	7	7	-1	3	7	7
66	6	5	1	5	5	4	4	3	2	6	5	5	4	5	3	5	2	1	2	4	5	7	5	3	4	7	2	5	3	5
67	6	5	0	6	4	5	6	6	2	6	6	1	5	7	6	6	6	5	6	5	6	5	6	5	4	6	1	6	6	6
68	2	6	1	3	3	2	3	6	0	7	6	3	6	7	5	4	4	3	3	4	4	5	5	3	3	4	3	5	4	2
69	6	7	1	7	6	7	6	6	1	6	6	1	6	6	6	6	6	6	6	7	7	6	2	6	7	6	6	6	6	6
70	6	6	6	3	3	3	6	6	3	6	6	3	6	6	3	3	2	2	6	3	6	7	6	3	3	6	3	7	3	5
71	6	7	5	7	7	6	7	4	3	5	7	6	6	6	3	5	6	3	4	2	3	4	3	2	4	6	2	7	6	6
72	7	7	0	6	5	3	6	6	3	7	6	3	7	6	6	6	3	3	3	3	6	7	3	0	7	6	-1	7	4	3
73	-1	3	6	6	3	2	6	2	0	1	6	7	6	4	5	5	2	6	7	6	4	6	6	1	5	6	6	7	3	6
74	2	5	0	3	5	5	5	5	1	7	5	2	2	5	3	4	6	3	7	6	5	6	6	5	5	7	0	5	4	4
75	6	6	3	6	5	5	5	5	6	7	6	3	3	6	6	5	6	6	3	6	3	6	6	5	2	5	1	7	5	1
76	7	4	0	5	7	4	3	6	4	6	7	1	6	6	4	5	6	5	1	6	7	6	5	6	6	4	0	6	4	7
77	5	3	3	6	6	6	6	4	5	4	4	3	6	6	3	3	4	5	3	3	4	7	5	4	6	5	2	5	6	4
78	3	4	3	6	6	6	3	6	6	3	4	6	6	3	3	6	6	3	6	3	6	6	3	3	3	6	3	6	4	3
79	6	6	5	7	7	7	6	6	4	5	5	3	6	6	5	7	6	6	6	5	3	7	6	5	7	6	3	7	6	6
80	6	7	5	7	7	7	7	6	4	7	6	5	7	7	6	7	7	6	7	6	7	7	6	5	6	7	3	7	7	6
81	6	1	6	5	4	3	5	4	2	7	5	6	3	7	4	3	3	3	5	3	4	7	7	2	2	7	3	7	3	3
82	5	5	-1	5	5	3	5	4	4	6	5	5	4	4	6	6	4	2	4	6	6	7	5	3	5	7	2	6	5	6

no	V1	V2	V3	V4	V5	V6	V7	V8	V9	V10	V11	V12	V13	V14	V15	V16	V17	V18	V19	V20	V21	V22	V23	V24	V25	V26	V27	V28	V29	V30
83	3	6	5	6	5	5	5	6	3	5	6	6	7	6	5	5	3	5	6	6	7	7	5	3	5	5	3	5	5	1
84	4	5	2	6	5	7	5	4	3	6	6	5	3	6	5	3	2	1	4	5	5	6	7	5	5	6	1	6	4	2
85	5	7	0	6	6	6	6	6	0	6	6	6	7	7	5	4	7	2	5	5	4	7	7	7	7	6	-1	6	6	7
86	3	3	4	5	3	2	4	2	-1	3	4	6	2	5	4	3	3	4	4	4	3	5	5	2	3	3	5	4	3	3
87	5	3	0	5	6	6	2	6	-1	7	5	5	6	6	4	3	6	2	4	3	4	6	6	0	3	6	0	5	6	3
88	7	6	-1	6	5	0	2	3	1	5	6	4	6	5	5	4	4	4	5	6	4	5	6	2	2	2	1	5	4	5
89	6	3	2	6	3	3	6	3	3	6	6	5	6	6	6	3	5	5	6	6	5	6	5	3	3	5	2	6	3	5

Table 11.30: Raw Data SVS – China (part 2)

no	V31	V32	V33	V34	V35	V36	V37	V38	V39	V40	V41	V42	V43	V44	V45	V46	V47	V48	V49	V50	V51	V52	V53	V54	V55	V56	V57	V58
1	6	0	7	7	6	5	6	6	5	7	6	7	6	-1	6	6	0	6	5	5	2	5	3	3	7	5	0	6
2	6	3	3	3	5	3	1	3	5	6	6	6	6	-1	3	5	4	5	4	3	3	6	2	5	3	6	7	4
3	5	4	5	5	4	3	3	3	4	5	5	5	4	-1	4	4	3	4	4	3	5	6	3	3	5	4	2	3
4																												
5	3	1	7	3	6	3	7	3	3	6	3	6	3	3	6	3	3	3	3	6	3	7	7	6	3	3	-1	3
6	6	3	6	7	6	2	4	6	6	6	7	6	5	-1	4	5	3	5	5	5	4	7	5	6	5	6	4	3
7	1	6	6	6	3	3	4	3	6	6	6	6	6	-1	6	6	5	4	5	5	3	5	2	6	5	5	2	5
8	5	2	5	6	5	6	5	4	3	5	5	7	3	4	6	4	1	5	5	6	0	6	4	5	6	5	-1	2
9	7	3	6	6	6	5	5	6	4	7	6	7	6	2	7	3	4	6	6	5	0	6	5	6	6	6	5	5
10	4	4	5	4	6	5	4	6	3	6	4	6	5	0	6	3	0	4	6	3	3	5	4	7	4	5	-1	1
11	6	3	6	6	6	3	1	3	3	6	3	7	4	3	6	3	5	5	3	2	0	6	3	3	5	3	0	2
12	3	3	6	5	6	2	3	5	7	6	4	7	7	3	5	5	5	6	5	5	4	6	6	5	6	5	-1	3
13	3	4	3	5	6	6	3	6	3	7	3	7	3	-1	6	3	3	3	4	3	1	7	2	7	3	3	1	1
14	5	4	6	5	5	6	4	3	4	6	4	4	3	1	6	3	2	5	4	3	4	6	3	6	3	3	1	2
15	3	3	6	6	6	3	3	0	6	6	6	7	3	-1	6	3	3	6	3	6	0	7	6	6	6	3	6	3
16	7	1	6	7	6	6	6	5	5	5	6	6	6	0	6	4	3	3	6	2	6	7	7	6	6	4	1	3
17	7	2	6	6	5	6	4	5	3	7	7	6	6	2	6	4	4	7	5	6	4	6	4	5	6	5	5	5
18	6	6	6	5	4	3	2	5	3	6	6	6	3	-1	6	0	3	6	5	0	0	6	3	5	6	3	4	5
19	6	5	7	6	4	3	1	5	2	6	5	7	5	4	6	3	5	6	6	6	4	6	2	4	5	4	5	5
20	5	4	6	6	7	5	6	6	5	4	6	5	6	0	4	5	4	5	5	5	-1	6	5	5	6	4	0	3
21	6	4	5	6	6	5	4	6	7	7	6	7	5	3	6	3	2	5	6	7	5	6	6	6	4	3	4	3
22	3	4	6	7	5	6	3	6	1	6	5	6	5	0	6	3	5	5	6	3	3	5	4	6	5	3	2	3
23	3	4	7	6	6	7	5	6	3	6	5	7	5	0	7	4	4	3	6	2	4	5	5	6	3	5	1	1
24	2	3	4	3	4	3	4	3	3	4	5	3	3	-1	3	3	3	3	4	2	3	7	5	4	3	3	2	3
25	6	3	5	6	5	5	3	4	6	7	6	6	5	2	3	4	5	6	4	0	0	6	3	3	6	5	5	1
26	7	3	7	5	6	6	5	5	4	6	6	7	4	-1	7	3	6	6	6	6	4	7	5	7	5	5	2	5

no	V31	V32	V33	V34	V35	V36	V37	V38	V39	V40	V41	V42	V43	V44	V45	V46	V47	V48	V49	V50	V51	V52	V53	V54	V55	V56	V57	V58
27	7	4	5	0	6	3	5	5	1	6	5	6	4	-1	7	-1	4	5	4	6	4	5	6	6	2	4	2	3
28	7	3	6	5	6	5	4	4	3	6	4	4	3	2	5	3	2	3	3	4	2	5	4	4	3	4	4	-1
29	5	4	6	6	5	5	5	4	4	6	7	6	5	-1	5	5	5	4	5	3	3	6	3	5	5	4	-1	4
30	6	3	6	6	0	1	1	5	1	6	3	6	3	2	6	4	6	4	3	3	3	6	6	6	5	4	6	2
31	5	3	6	6	3	6	4	3	5	7	6	7	6	-1	6	0	3	5	3	5	3	6	5	6	5	5	3	3
32	6	3	6	5	5	4	3	6	7	4	6	7	6	3	7	3	6	6	6	0	6	6	3	3	6	5	3	5
33	6	5	6	7	6	6	6	6	3	6	6	6	6	-1	5	3	5	6	6	3	2	6	6	7	6	3	1	3
34	5	4	6	7	6	5	4	3	4	5	7	5	6	2	4	3	3	4	3	2	5	7	4	5	5	4	3	5
35	6	0	4	6	4	4	2	3	5	6	3	6	7	-1	6	5	3	6	6	3	2	6	1	3	3	2	0	3
36	3	3	6	5	4	5	5	4	3	3	4	7	5	4	5	4	3	4	5	6	2	4	5	4	3	4	1	3
37	6	6	6	5	5	6	3	5	4	7	4	5	5	6	6	4	5	5	5	5	4	4	5	5	4	4	4	5
38	5	3	3	3	3	2	2	2	3	6	3	7	3	3	3	2	2	2	2	2	2	5	2	4	3	2	2	1
39	6	-1	3	4	4	4	4	3	3	7	7	7	6	-1	5	4	6	6	5	5	3	5	5	4	5	5	3	3
40	6	0	3	5	6	5	6	5	7	6	6	6	5	-1	4	3	6	7	6	3	0	6	5	6	6	5	7	5
41	6	4	7	7	7	3	2	6	5	6	7	6	5	2	5	6	4	4	5	5	4	6	3	6	6	3	3	3
42	7	3	7	6	7	6	6	6	7	7	6	7	7	3	7	5	5	6	6	6	1	7	5	7	7	5	3	5
43	6	3	6	6	6	6	5	6	5	7	6	6	6	2	6	6	6	6	6	3	4	6	4	6	6	6	5	6
44	6	3	6	6	6	6	5	6	5	7	6	6	6	2	6	6	6	6	6	3	4	6	4	6	6	6	5	6
45	3	0	5	7	6	4	0	3	2	6	5	6	6	-1	2	4	3	4	2	7	4	3	5	4	5	3	5	3
46	6	3	6	6	6	6	5	6	3	6	6	6	6	-1	6	3	1	3	5	3	2	5	2	7	5	3	6	3
47	2	3	4	4	3	3	3	3	2	4	3	4	3	-1	3	3	3	4	3	4	0	3	2	4	3	3	2	3
48	4	1	6	5	6	5	5	6	3	6	5	5	4	-1	7	4	3	4	5	3	3	6	5	6	3	3	3	4
49	5	0	3	5	5	6	3	2	1	5	7	7	5	1	2	5	2	4	4	7	6	7	6	5	7	4	5	3
50	6	3	6	7	6	6	6	6	6	6	7	6	6	3	6	6	6	6	6	6	6	6	6	6	6	3	6	3
51	5	2	5	5	5	6	5	4	5	4	6	6	5	2	4	3	4	6	4	3	5	5	5	4	5	3	4	4
52	6	5	5	5	5	6	4	6	5	7	6	7	6	3	5	3	3	5	5	5	4	6	6	5	5	4	4	3
53	-1	3	2	5	5	3	0	4	7	5	3	6	6	0	2	5	4	3	2	4	3	5	3	2	6	4	3	5
54	4	1	5	4	5	4	3	3	1	6	3	7	4	6	7	2	3	5	6	5	2	5	6	7	4	4	2	3
55	3	2	6	7	3	4	2	1	3	4	5	4	3	5	6	2	5	7	6	5	7	6	5	2	4	5	3	1
56	4	3	6	5	5	6	3	3	3	6	7	7	4	-1	6	3	4	5	5	4	5	6	5	5	4	4	3	3
57	6	5	6	7	7	7	7	6	5	7	7	7	6	-1	7	6	5	7	7	7	3	7	7	7	5	7	3	3
58	5	3	6	7	1	6	7	3	3	6	5	7	6	-1	6	3	3	4	4	6	6	6	4	5	4	3	2	3
59	5	5	5	7	7	7	5	5	6	7	7	6	6	4	6	6	5	5	5	6	4	5	5	6	5	4	3	4
60	5	2	5	5	4	4	5	5	5	5	6	6	5	1	4	4	5	4	4	5	2	5	5	5	2	3	6	4
61	7	5	6	6	6	3	3	3	0	6	3	7	6	-1	6	5	4	3	3	7	3	6	3	3	6	3	5	6
62	6	-1	7	7	3	4	6	4	5	7	6	7	6	-1	5	5	4	6	5	7	7	5	7	3	4	5	5	0
63	6	6	6	6	3	6	4	5	4	6	5	6	4	4	6	6	5	5	6	4	1	6	3	5	4	4	5	5
64	7	0	7	2	7	5	5	5	7	7	2	7	5	6	7	3	2	4	5	2	7	5	6	7	6	6	-1	4
65	7	0	3	7	7	0	7	7	-1	7	7	7	7	-1	3	3	3	7	3	0	0	7	7	7	7	1	7	0

no	V31	V32	V33	V34	V35	V36	V37	V38	V39	V40	V41	V42	V43	V44	V45	V46	V47	V48	V49	V50	V51	V52	V53	V54	V55	V56	V57	V58
66	7	3	5	6	5	6	2	4	5	6	6	6	6	-1	5	4	4	6	5	2	3	5	5	5	6	6	2	3
67	5	3	6	6	6	6	4	6	6	5	5	6	4	1	6	5	2	6	6	6	4	6	3	6	5	6	3	3
68	2	-1	4	6	4	5	3	4	3	7	6	7	4	0	5	3	3	4	4	3	2	3	3	4	4	5	3	3
69	6	2	6	6	6	6	6	6	2	6	7	7	5	-1	6	0	0	0	6	6	6	6	6	6	6	6	-1	3
70	6	3	3	6	3	3	2	3	6	6	6	7	6	-1	6	6	0	3	5	3	0	6	6	3	5	3	5	5
71	5	2	6	5	5	4	3	6	3	6	5	5	5	-1	6	5	3	5	6	5	2	6	6	5	6	7	3	4
72	7	-1	7	7	6	6	7	5	3	7	7	7	4	-1	6	0	-1	6	2	4	3	5	5	3	7	3	7	4
73	4	4	5	5	3	6	2	6	6	7	6	7	6	-1	5	5	5	3	6	7	0	3	4	6	6	4	-1	3
74	3	3	4	4	4	4	3	5	5	5	6	5	6	1	6	2	5	6	4	2	5	5	3	4	3	4	3	3
75	5	2	6	7	6	6	3	2	2	5	7	7	6	-1	5	3	3	5	3	6	3	5	2	3	6	6	-1	3
76	7	0	6	5	5	7	5	6	4	7	6	7	5	-1	6	6	4	5	6	6	5	7	4	5	4	6	-1	5
77	5	2	5	4	5	3	5	6	5	6	5	7	5	1	5	5	2	5	5	6	2	5	4	5	6	6	-1	0
78	3	0	6	6	6	6	6	6	3	6	3	3	3	-1	6	1	3	6	3	3	-1	5	7	3	1	3	4	2
79	6	5	7	6	6	5	6	4	5	6	6	6	4	3	5	4	6	5	6	5	5	6	7	6	6	5	5	5
80	6	3	7	5	7	4	5	4	5	7	7	7	7	6	7	6	4	6	6	6	6	6	7	7	5	5	5	4
81	6	2	4	6	4	6	3	5	7	7	6	7	6	-1	6	6	5	6	5	5	3	7	5	6	5	6	-1	3
82	6	4	5	5	3	5	3	5	3	7	7	7	6	-1	6	4	5	6	4	4	-1	6	6	5	4	6	4	4
83	5	3	6	6	6	6	6	6	5	6	5	7	6	3	6	6	5	5	5	4	1	6	5	6	6	6	1	5
84	7	2	5	4	3	4	3	3	4	6	6	7	6	-1	5	5	1	5	4	6	2	5	4	3	5	5	2	3
85	7	6	6	7	6	7	7	7	6	7	7	7	7	-1	6	6	5	7	7	7	7	6	7	7	7	7	7	6
86	5	6	4	5	5	3	2	3	4	5	3	4	5	-1	4	3	3	3	3	4	3	4	2	3	4	3	2	3
87	6	3	4	6	4	5	-1	5	0	6	4	6	5	4	5	6	0	2	4	6	7	3	4	5	6	4	0	2
88	3	3	7	6	6	6	2	3	3	6	6	5	4	2	6	2	2	3	4	0	1	5	4	5	5	4	-1	2
89	5	3	6	5	5	6	2	5	5	6	3	7	6	-1	6	2	6	6	3	5	3	5	3	6	5	5	-1	-1

Table 11.31: Centred Scores SVS – China

no.	Conformity	Tradition	Benevolence	Universalism	Self-Direction	Stimulation	Hedonism	Achievement	Power	Security
1	-0,353	-3,903	0,097	0,522	0,097	-0,770	-1,103	1,147	0,897	0,697
2	1,112	-2,138	0,062	0,237	0,462	-1,138	-0,471	0,112	-1,738	0,862
3	1,259	-0,341	1,859	-1,366	0,059	-1,741	-1,408	0,009	-1,541	1,059
4	-0,026	-2,676	0,324	0,599	0,924	-1,276	-0,609	0,474	-1,876	0,524
5	0,198	-1,252	0,348	-0,302	0,348	-0,385	-1,052	0,448	0,148	0,148
6										
7	-0,741	-1,741	1,459	-0,491	1,859	0,592	-1,741	1,259	-0,941	-0,341
8	0,466	-1,134	0,866	-0,534	-0,534	-0,868	-0,868	1,716	-0,534	0,666
9	-1,190	-3,190	1,410	0,810	0,610	-1,190	1,810	1,060	-0,390	0,010
10	1,457	-0,493	1,507	0,082	-0,093	-1,960	-1,626	0,207	-2,093	0,307

no.	Conformity	Tradition	Benevolence	Universalism	Self-Direction	Stimulation	Hedonism	Achievement	Power	Security
11	0,672	-3,628	0,172	0,797	1,172	-1,161	0,172	0,922	-2,028	0,772
12	0,138	-2,062	0,338	-0,362	0,738	0,138	-1,529	0,888	-0,462	0,738
13	-0,552	-0,652	0,748	0,448	0,748	-0,385	0,282	0,448	-2,452	-0,252
14	0,905	-2,145	1,455	0,280	0,455	-0,345	-2,011	-0,845	-1,745	0,655
15	-0,664	-0,914	0,086	-0,164	0,686	-0,580	-1,247	0,586	-0,314	-0,314
16	1,138	-1,162	1,038	-0,987	-0,362	-0,695	-2,029	0,638	-0,762	0,638
17	-0,353	-1,303	0,497	0,272	0,297	-3,103	-2,103	0,897	-1,103	0,697
18	0,569	-1,731	0,669	0,194	1,269	-0,598	-0,264	0,319	-2,131	0,669
19	1,552	-1,348	0,252	-0,573	0,452	-2,948	-1,282	1,802	0,252	0,252
20	0,233	-2,217	0,983	-0,017	0,783	-2,684	-1,351	1,233	-1,617	-0,017
21	0,612	-0,938	1,462	-0,638	0,662	-1,805	-0,471	-0,138	-2,338	0,462
22	0,302	-1,048	0,952	0,927	1,352	0,552	-1,115	-0,448	-1,448	-1,248
23	-0,250	-0,400	0,200	0,500	1,000	-1,000	-1,333	0,250	-2,400	1,000
24	1,603	-1,897	1,503	-0,022	-0,097	-3,230	-1,563	-0,397	-1,697	1,503
25	0,879	-2,021	0,379	-0,871	1,579	-0,287	1,379	0,879	-3,621	-0,021
26	-0,034	-2,034	1,966	0,591	0,366	1,632	-1,034	-0,284	-1,634	-0,034
27	1,155	-1,645	1,155	0,780	0,955	0,155	-1,511	-0,345	-2,445	0,755
28	0,578	-0,172	1,028	-0,422	-0,172	-1,839	-0,839	0,078	-0,572	0,028
29	0,500	-2,000	0,800	0,375	0,600	1,000	-0,333	-0,250	-1,800	0,400
30	-0,302	-1,252	0,948	0,948	1,148	-0,385	-1,052	-0,302	-2,852	0,948
31	0,759	-0,741	1,459	1,259	-0,341	-0,075	-2,741	-0,491	-2,941	0,459
32	0,267	-0,783	-0,383	0,767	-0,783	-1,316	0,684	3,017	-0,383	-0,983
33	0,147	-1,003	0,797	-0,978	0,397	0,063	0,063	0,397	-2,203	0,397
34	0,276	-1,124	1,476	-0,099	-0,324	-1,391	-2,724	0,276	-2,524	1,676
35	1,000	-1,400	1,400	0,500	2,000	-1,333	0,667	-2,250	-3,200	-0,600
36	0,164	-0,986	1,214	-0,461	0,214	-1,920	0,414	-0,086	-2,386	1,214
37	0,560	0,710	0,510	-0,190	-0,090	-1,690	0,644	-0,190	-1,090	-0,290
38	-0,034	-0,634	0,766	-0,409	0,166	0,299	0,299	-0,034	-0,234	0,166
39	0,388	-1,562	1,038	-0,237	1,038	-1,029	-0,029	1,138	-3,162	0,438
40	0,509	-1,741	-0,541	-0,491	0,259	-1,075	0,925	1,259	-1,341	0,859
41	0,440	-1,910	0,690	0,065	1,290	-1,644	-1,310	1,440	-1,310	0,290
42	0,905	-1,145	0,655	0,280	0,255	-1,011	-0,678	0,405	-1,145	0,655
43	0,491	-2,659	1,341	0,241	0,541	-2,259	-2,259	-0,009	-2,259	0,941
44	0,224	-1,176	0,824	0,224	1,024	-0,443	0,224	-0,276	-2,576	0,224
45	1,069	-1,431	1,569	0,319	0,369	-1,764	-0,431	-1,181	-2,431	-0,031
46	-0,776	-4,376	-0,176	1,724	2,224	2,224	-0,109	0,224	-4,776	1,024
47	0,440	-1,710	0,290	-0,060	1,090	-0,644	0,690	-0,060	-1,510	0,690
48	-0,784	-2,534	0,066	-0,284	1,466	1,132	1,132	0,716	-3,334	1,266
49	0,629	-2,021	1,179	0,129	0,579	-1,954	-0,287	1,129	-3,021	0,779
50	1,198	-1,852	0,748	-0,052	0,148	-2,052	-1,385	0,448	-1,852	0,948
51	0,672	-2,928	0,072	-0,328	0,672	0,339	-0,661	0,172	-1,328	1,672
52	0,517	-1,283	0,517	0,517	0,717	-0,483	0,517	0,767	-1,883	-0,683
53	-0,431	-1,131	1,069	0,944	-0,331	-1,598	0,069	0,319	-2,931	0,669
54	-0,595	-2,945	0,255	-0,470	0,455	-1,678	-0,678	1,405	0,255	0,655
55	1,224	-1,976	0,224	-0,401	-0,176	-1,776	-0,776	0,474	-1,176	1,624
56	-0,647	-1,797	0,603	0,478	0,203	0,937	-0,730	0,603	-1,797	0,803
57	0,931	-1,069	1,531	-0,694	-0,869	-0,402	-0,736	1,681	-0,269	-0,669
58	0,690	-1,210	1,990	-0,435	0,590	1,523	-1,144	-0,810	-0,810	-0,810
59	-0,328	-0,728	1,472	1,297	-0,128	-0,661	-1,994	-0,328	-2,928	1,072
60	-0,603	-1,103	1,297	-0,103	0,497	-0,437	-1,437	0,397	-2,103	0,497
61	-0,259	-2,759	1,041	0,616	0,841	-1,425	0,241	-0,009	-0,359	0,041
62	1,621	-1,379	0,621	-1,129	0,021	-2,046	-0,379	1,371	1,021	0,221

no.	Conformity	Tradition	Benevolence	Universalism	Self-Direction	Stimulation	Hedonism	Achievement	Power	Security
63	0,517	-1,283	-0,083	0,017	0,317	-0,816	-0,816	0,767	-1,883	0,717
64	-0,086	-2,686	0,514	0,539	0,914	0,914	0,247	-0,836	-1,086	0,714
65	0,431	-1,969	1,031	-0,444	0,231	-2,236	-1,569	1,431	0,231	0,231
66	0,621	-1,679	0,521	-0,254	-0,079	0,454	0,121	0,121	0,521	0,121
67	0,974	-0,776	1,024	-0,151	0,624	-1,443	0,224	-0,276	-1,576	-0,576
68	1,095	-0,955	0,445	0,470	0,045	-1,155	-1,489	0,345	-2,755	-0,155
69	-0,034	-0,734	0,466	0,091	1,066	0,132	0,132	-0,284	-1,534	0,266
70	-0,250	-1,000	0,600	0,125	0,800	-1,000	0,000	-0,500	-1,400	0,200
71	0,112	-1,238	1,162	0,112	0,762	-0,638	0,029	1,112	-2,638	-0,238
72	0,078	-0,372	0,228	0,203	0,628	-0,172	-0,839	0,828	-2,172	0,028
73	0,914	-2,586	0,214	-0,086	0,214	-0,253	1,414	-0,086	-1,586	0,814
74	0,164	-1,386	-0,386	-0,586	-0,186	-0,586	0,414	-0,086	-1,786	1,214
75	-0,138	-0,638	-0,238	-0,388	0,962	0,029	-1,305	0,362	-0,838	0,362
76	0,905	-1,145	0,655	0,280	0,255	-1,011	-0,678	0,405	-1,145	0,655
77	-0,017	-0,917	-0,117	-0,267	0,283	-1,517	-0,851	-0,517	-1,117	1,283
78	1,147	-2,803	0,597	0,147	1,397	-0,603	-0,270	-0,103	-1,803	0,797
79	0,552	-0,448	0,152	-0,323	-0,248	-2,115	0,218	1,052	0,752	-0,248
80	-0,517	0,183	0,183	0,358	0,583	-3,684	-0,351	0,233	-1,417	1,183
81	0,612	-2,738	1,062	0,237	1,062	-0,805	0,195	0,362	-2,338	0,662
82	0,922	-1,228	1,172	0,422	1,372	-1,494	-2,161	0,672	-2,428	0,172
83	-0,534	-2,034	0,766	0,841	0,166	-0,368	-0,034	-0,034	-1,834	0,366
84	0,224	-2,676	0,124	-0,651	0,724	-0,609	0,391	0,474	-1,076	0,324
85	0,733	-1,817	1,383	0,358	1,583	-2,684	-0,351	-0,267	-3,017	0,983
86	-0,043	-1,593	0,607	0,582	0,407	-1,126	0,874	0,957	-2,393	0,607
87	0,698	-1,452	0,748	-1,052	-0,052	-0,385	-1,385	0,698	-0,052	1,148
88	1,155	-0,645	1,555	0,280	0,555	-2,178	-2,178	0,655	-2,245	0,755
89	1,621	-1,179	0,821	0,246	-0,979	-1,713	-1,046	0,871	-2,379	0,821

Table 11.32: Demography Participants – Korea

no	age	gender	major	graduate/ undergraduate	method
1	23	male	ship engine management	u	puzzle interview
2	24	female	medicine	u	puzzle interview
3	20	male	navigation	u	interview
4	21	male	navigation	u	anecdote circle
5	21	female	international economics	u	puzzle interview
6	20	male	computer science	u	puzzle interview
7	21	male	computer science	u	anecdote circle
8	20	male	logistics	u	interview
9	23	female	law	u	anecdote circle
10	22	male	business administration	u	interview
11	22	male	computer science	u	anecdote circle
12	21	male	e-business	u	interview
13	20	male	computer science	u	focus group
14	23	male	international economics	u	cultural probes
15	23	male	electronic information engineering	u	cultural probes
16	21	male	electronic information engineering	u	cultural probes
17	19	male	mathematics	u	cultural probes
18	20	male	transportation engineering	u	cultural probes
19	21	male	civil engineering	u	cultural probes
20	24	male	civil engineering	u	cultural probes
21	20	female	ship engine management	u	inspiration card workshop

no	age	gender	major	graduate/ undergraduate	method
22	22	male	transportation engineering	u	inspiration card workshop
23	20	male	transportation engineering	g	inspiration card workshop
24	22	male	ship engine management	u	inspiration card workshop
25	22	male	ship engine management	u	anecdote circle
26	22	female	electronic information engineering	u	puzzle interview
27	21	female	transportation engineering	u	anecdote circle
28	22	male	transportation engineering	u	inspiration card workshop
29	25	male	logistics	u	anecdote circle
30	23	female	business administration	g	anecdote circle
31	24	female	business administration	g	anecdote circle
32	25	female	business administration	g	puzzle interview
33	24	male	English	g	focus group
34	21	female	computer science	u	puzzle interview
35	27	male	logistics	u	puzzle interview
36	23	male	law	g	anecdote circle
37	23	male	business administration	g	inspiration card workshop
38	23	male	computer science	g	inspiration card workshop
39	24	male	computer science	g	interview
40	21	male	computer science	g	focus group
41	24	male	marketing	u	inspiration card workshop
42	23	male	logistics	u	interview
43	21	male	fresh	u	inspiration card workshop
44	21	male	automatization	u	interview
45	25	male	computer science	g	interview
46	26	male	computer science	g	interview
47	24	male	computer science	g	puzzle interview
48	22	male	e-business	u	inspiration card workshop
49	20	female	maritime law	u	interview
50	24	male	information management	g	focus group
51	26	male	road&railway engineering	g	focus group
52	24	female	computer science	g	inspiration card workshop
53	24	male	computer science	g	inspiration card workshop
54	23	male	computer science	g	inspiration card workshop
55	27	male	computer science	g	inspiration card workshop
56	22	female	public affairs management	u	puzzle interview
57	22	female	public affairs management	u	anecdote circle
58	22	female	public affairs management	u	anecdote circle
59	24	female	information management	u	inspiration card workshop
60	20	male	ship engine management	u	anecdote circle
61	21	male	logistics	u	focus group
62	19	female	fresh	u	anecdote circle
63	26	male	signal and information systems	g	focus group
64	21	female	logistics	u	anecdote circle
65	21	male	navigation	u	anecdote circle
66	24	female	hci	g	anecdote circle
67	22	female	maritime law	u	anecdote circle
68	24	female	computer science	g	inspiration card workshop
69	23	female	hci	u	focus group
70	25	male	automatization	g	focus group
71	24	male	automatization	g	focus group
72	26	male	automatization	g	focus group
73	25	male	ship engine management	g	inspiration card workshop
74	20	female	communication engineering	u	focus group
75	25	female	English	g	inspiration card workshop

no	age	gender	major	graduate/ undergraduate	method
76	25	male	automatization	u	focus group
77	22	female	hci	u	focus group
78	24	male	hci	u	inspiration card workshop
79	25	male	hci	g	focus group
80	27	female	computer science	teacher	focus group
81	26	female	hci	u	focus group
82					inspiration card workshop
83					inspiration card workshop
84	22	f	industrial design	u	focus group

Table 11.33: Raw Data NEO-FFI – Korea (part 1)

no	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
1	1	2	2	4	3	3	3	1	0	2	2	2	4	2	1	3	3	2	2	3	1	3	4	2	2	0	2	4	1	3
2	2	3	3	2	2	2	3	1	1	2	3	1	3	3	2	3	3	2	2	3	3	2	1	2	2	0	1	1	1	1
3	2	3	4	3	3	3	3	3	3	3	1	3	4	3	1	3	3	4	3	3	1	2	2	3	1	1	1	4	2	1
4	0	2	3	2	4	3	2	1	2	2	1	3	1	1	1	1	3	3	3	4	2	3	1	1	4	1	1	4	0	3
5	1	3	2	4	3	1	3	1	4	3	2	2	4	2	0	3	3	3	4	4	2	3	3	4	4	1	3	0	3	3
6	3	2	2	3	3	0	3	3	4	4	1	4	1	3	0	1	2	3	3	4	1	1	3	3	4	0	1	3	2	2
7	1	3	3	3	2	3	3	1	3	1	3	2	3	3	2	3	2	3	3	2	3	3	2	0	2	3	3	3	2	1
8	1	3	3	3	2	1	3	3	4	1	2	3	2	3	2	3	3	3	3	3	3	3	3	3	3	0	3	3	3	2
9	2	3	3	4	3	2	3	2	4	3		4	4	4	1	1	3	3	4	4	1	3	2	4	3	1	2	1	4	3
10	4	2	2	2	3	2	3	1	3	1	0	4	3	1	2	0	2	4	3	4	3	4	3	3	3	0	0	4	1	1
11	2	3	3	4	3	3	4	2	4	2	2	3	3	3	2	3	4	3	3	3	2	3	3	3	2	1	3	3	2	3
12	1	3	3	3	3	3	4	1	2	1	3	3	3	1	1	3	3	2	1	2	3	4	0	2	2	1	2	4	2	1
13	3	4	4	4	3	3	3	2	3	1	1	3	4	1	1	3	3	2	3	2	1	3	3	2	2	1	2	2	1	2
14	1	1	3	3	1	3	3	1	2	2	3	1	1	1	3	3	1	4	2	4	3	1	1	3	3	4	1	0	2	1
15	2	3	1	3	3	1	2	3	3	1	1	2	3	3	1	3	4	1	3	3	3	1	1	3	3	0	4	0	3	2
16	0	1	3	3	4	3	2	3	1	1	4	1	4	0	0	3	3	4	4	3	4	3	0	1	3	4	0	4	2	0
17	3	3	2	4	1	2	2	0	3	1	3	4	3	1	3	1	4	1	2	3	0	4	0	0	1	0	0	4	3	1
18	1	3	3	3	3	3	3	2	1	1	2	3	2	2	1	1	2	3	2	3	1	2	0	3	2	1	2	1	2	1
19	1	2	3	3	1	1	2	1	3	1	2	2	2	2	3	2	2	3	3	3	2	2	1	1	2	2	3	3	2	1
20	1	3	0	4	4	1	4	2	3	3	1	3	4	1	2	2	3	3	3	4	3	2	3	4	3	0	3	3	3	3
21	1	3	2	4	3	2	1	2	3	4	1	3	1	2	1	1	2	4	2	4	3	3	0	3	3	0	4	4	0	2
22	1	4	3	3	3	2	4	1	2	2	1	4	3	4	2	1	3	3	3	3	2	2	3	4	2	0	3	4	3	3
23	0	4	3	3	1	3	4	0	1	1	3	4	2	3	2	1	4	3	3	3	0	4	3	1	1	4	0	3	0	0
24	2	3	1	3	4	3	3	1	2	4	0	3	3	3	0	1	2	4	2	4	3	4	0	2	4	3	2	0	2	4
25	0	3	1	3	2	3	3	1	1	3	1	3	1	1	1	3	3	3	2	3	3	2	1	1	3	3	1	2	1	1
26	2	3	2	3	4	3	4	1	3	3	2	4	3	1	0	3	4	4	3	3	3	4	3	4	4	1	1	4	2	3
27	0	1	4	3	2	4	2	1	2	3	4	2	2	3	1	4	3	3	1	1	2	1	1	1	3	3	0	2	1	0
28	1	4	4	4	3	4	4	2	4	3	1	3	3	4	1	4	4	3	4	4	3	4	3	3	3	3	3	4	3	0
29	0	4	4	3	2	1	4	1	3	4	0	3	3	3	1	3	4	3	3	4	3	4	3	1	3	1	1	3	3	2
30	3	2	1	4	2	1	2	1	3	3	1	3	4	3	1	1	2	3	2	4	1	3	3	1	2	1	1	1	2	1
31	2	3	3	2	2	3	3	0	3	3	0	3	4	2	2	2	2	3	3	3	1	3	1	2	2	1	1	4	1	1
32	2	1	3	3	2	2	2	2	3	2	1	3	2	3	1	1	2	3	3	4	2	2	2	3	3	1	1	3	2	2
33	3	4	3	3	2	2	3	1	3	1	0	4	2	3	2	1	3	3	3	3	0	4	1	3	1	0	3	0	3	1
34	1	2	1	4	4	3	3	2	3	3	3	3	4	2	0	2	3	3	3	4	4	4	3	3	3	2	1	2	3	3
35	2	4	3	3	3	3	3	1	3	1	3	2	3	1	3	2	4	3	3	3	1	4	3	4	1	3	2	4	1	1
36	3	3	0	3	2	3	4	3	4	3	1	4	3	3	0	2	3	4	3	3	1	4	1	3	3	0	3	4	1	3

no	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
37	3	3	1	3	3	3	3	2	1	4	1	3	4	2	1	1	3	3	2	4	2	3	3	2	3	0	2	3	1	3
38	2	3	1	2	0	2	3	1	4	3	1	3	3	2	1	1	4	4	2	3	2	4	2	3	2	0	3	3	2	4
39	1	4	0	4	1	3	3	1	3	2	3	4	2	3	2	3	3	2	2	3	3	4	2	3	2	3	2	4	2	1
40	2	4	1	4	4	2	3	1	4	3	1	1	3	3	1	1	4	3	3	4	2	2	1	3	3	1	2	3	1	1
41	1	3	2	4	3	2	4	2	3	3	3	4	2	2	2	3	3	3	2	3	3	3	3	3	2	3	1	3	3	2
42	2	3	1	4	4	1	3	1	2	3	1	4	3	3	1	2	2	4	3	4	1	3	3	4	3	0	3	2	3	1
43	2	4	1	3	3	1	4	2	3	2	1	3	3	3	1	0	4	2	3	3	1	4	1	3	3	0	3	4	2	1
44	2	2	3	4	2	2	2	2	4	3	1	3	3	1	1	1	3	3	3	3	2	2	3	3	2	1	2	3	3	3
45	1	3	2	3	1	1	3	2	2	1	3	3	2	2	2	2	3	2	1	2	1	3	2	2	1	0	3	3	2	2
46	0	3	0	4	4	3	3	1	2	1	2	3	0	3	0	1	3	1	2	4	3	4	0	1	1	2	1	1	1	0
47	0	3	3	3	2	2	3	1	3	3	1	3	3	3	1	3	4	4	2	3	2	4	3	1	3	1	2	4	1	1
48	3	4	2	3	1	1	4	1	4	3	0	4	4	3	0	3	4	4	2	4	1	4	1	3	4	0	2	3	1	3
49	2	3	1	4	3	1	3	1	4	3	0	4	2	4	1	1	3	2	3	4	1	3	2	4	3	0	3	3	4	3
50	1	3	3	3	1	3	3	3	1	4	1	1	3	0	1	1	3	4	3	4	3	3	0	1	3	1	2	4	3	3
51	1	2	1	3	3	1	4	0	4	3	1	4	1	4	1	3	2	3	4	3	3	1	3	3	2	0	1	2	1	2
52	1	2	3	3	2	3	3	3	3	3	1	3	3	3	1	2	2	2	3	4	2	1	2	4	2	0	3	2	4	2
53	1	2	3	2	4	1	1	1	3	1	1	2	3	4	1	3	2	3	3	4	1	3	1	3	3	0	1	2	4	4
54	0	3	2	4	4	2	4	3	3	3	1	2	2	4	0	3	3	3	3	4	3	3	3	4	2	0	3	2	0	2
55	1	2	3	3	4	3	3	1	3	3	1	3	2	2	1	2	3	4	2	3	2	3	3	2	4	1	1	3	1	2
56	1	4	3	4	3	1	1	2	4	2	1	3	4	3	1	3	3	4	3	4	3	4	2	3	3	0	3	3	2	2
57	2	4	0	3	3	2	3	3	2	3	2	3	4	2	0	1	4	0	3	4	3	4	0	2	4	0	3	4	3	3
58	1	2	1	3	3	3	2	1	3	2	3	1	3	3	2	4	2	4	3	4	4	1	1	3	1	2	1	2	2	1
59	3	4	3	4	1	2	4	3	4	2	1	3	2	3	1	0	4	4	3	3	1	4	0	3	3	2	2	4	2	3
60	2	3	4	3	1	1	3	1	3	1	0	3	2	2	3	1	2	2	3	1	1	2	0	2	1	1	1	1	2	0
61	3	4	2	3	3	2	2	1	2	2	1	3	2	2	1	1	4	3	3	3	2	3	2	3	2	0	3	3	3	2
62	0	2	1	4	4	2	3	0	1	3	2	1	4	2	1	3	2	1	3	3	3	2	1	2	3	3	2	3	1	2
63	3	4	3	3	2	0	4	2	2	1	1	4	4	3	2	3	3	3	3	2	1	3	3	3	2	0	1	3	1	2
64	1	2	3	2	3	2	1	2	1	3	0	2	1	1	0	2	3	4	2	3	1	2	0	2	3	0	2	3	0	3
65	1	4	3	3	2	2	2	1	3	2	2	3	2	1	2	3	4	1	2	3	1	3	1	4	2	0	3	3	3	1
66	1	3	0	4	4	1	4	3	4	3	1	4	4	4	0	0	4	3	4	4	3	4	3	4	4	1	3	4	2	2
67	1	3	3	4	1	3	4	0	4	3	2	3	3	4	1	2	1	4	3	3	3	4	3	4	4	3	1	1	3	0
68	1	3	1	4	3	3	3	1	2	3	2	3	3	4	1	3	3	2	3	3	3	3	1	2	3	0	3	1	2	1
69	2	4	3	3	4	2	3	3	3	4	2	4	3	3	2	2	4	3	2	4	3	3	3	3	4	0	2	4	2	2
70	1	3	4	3	2	3	4	1	3	1	0	3	3	3	2	2	3	3	3	3	1	3	4	3	1	1	3	1	3	1
71	1	2	3	2	0	3	3	2	2	1	3	2	3	1	2	4	2	4	3	1	3	2	1	3	2	3	1	2	1	1
72	1	2	1	3	2	2	3	0	1	2	3	3	3	1	2	2	2	3	2	3	3	4	3	2	2	1	2	3	2	2
73	1	3	3	3	1	1	3	1	1	2	2	3	3	3	1	1	3	3	3	4	2	1	2	2	2	1	2	3	2	1
74	0	2	3	4	4	3	3	1	2	2	4	3	4	3	1	4	3	3	3	3	4	3	2	2	3	1	1	0	2	0
75	1	3	2	2	3	3	2	1	3	2	1	2	3	3	1	2	3	4	3	3	3	2	2	3	2	3	3	3	1	2
76	3	3	2	3	1	2	4	2	3	2	1	3	1	3	0	2	3	3	3	3	1	2	1	3	4	0	0	1	3	1
77	2	3	3	2	1	0	3	2	4	2	1	3	3	2	2	1	3	3	3	3	0	3	3	3	2	0	3	4	2	2
78	2	4	2	3	2	2	3	1	2	3	1	4	2	2	1	3	4	2	2	4	2	3	2	3	3	0	2	3	3	4
79	1	1	1	4	4	3	4	3	1	3	1	3	2	2	1	1	3	3	3	4	3	1	1	1	3	3	1	4	1	1
80	1	4	3	3	1	1	4	2	4	2	1	3	3	3	2	3	4	4	3	3	1	3	2	3	3	0	2	4	2	1
81	1	3	3	3	1	1	4	1	1	1	1	4	3	2	2	3	3	3	3	3	2	4	3	4	2	2	1	4	3	1
82																														
83																														
84	2	3	2	3	4	3	4	1	3	3	2	4	3	1	0	3	4	4	3	3	3	4	3	4	4	1	1	4	2	3

Table 11.34: Raw Data NEO-FFI –Korea (part2)

no	Q31	Q32	Q33	Q34	Q35	Q36	Q37	Q38	Q39	Q40	Q41	Q42	Q43	Q44	Q45	Q46	Q47	Q48	Q49	Q50	Q51	Q52	Q53	Q54	Q55	Q56	Q57	Q58	Q59	Q60
1	4	3	1	2	0	2	3	1	3	4	0	2	2	2	3	4	2	1	3	4	0	2	1	1	4	1	3	4	3	1
2	2	1	3	2	0	1	3	3	1	3	1	2	1	1	3	3	3	3	2	1	2	1	3	2	2	0	3	2	1	3
3	3	3	1	2	1	2	3	2	3	4	3	2	3	3	0	3	3	1	2	4	1	2	3	1	3	1	3	3	3	1
4	2	3	1	3	0	0	4	1	3	2	0	3	0	4	4	3	4	1	3	3	0	3	2	1	2	0	4	2	3	1
5	3	4	0	2	1	4	4	1	3	3	4	3	3	2	1	4	3	1	2	2	2	3	1	2	1	4	1	3	4	0
6	3	3	1	3	1	3	4	1	3	3	2	3	1	3	4	4	4	1	3	2	4	3	1	3	2	3	3	3	3	1
7	2	3	2	2	1	2	2	3	3	2	0	2	2	2	1	3	2	3	2	3	2	1	3	2	3	1	3	2	3	2
8	3	3	1	3	1	4	3	3	4	3	3	3	2	4	1	3	3	3	3	3	3	2	3	1	3	2	3	3	3	1
9	3	3	0	3	0	3	4	1	3	2	3	3	1	3	1	4	4	1	2	3	4	3	0	3	3	4	3	3	3	0
10	3	3	3	4	1	3	4	2	4	3	3	2	1	3	2	3	1	3	3	4	0	3	3	0	4	3	3	3	3	3
11	3	2	2	3	1	3	3	3	3	3	3	3	3	2	2	3	3	2	3	3	4	3	3	2	2	2	3	3	2	2
12	2	3	3	3	2	1	3	3	3	2	2	1	3	3	0	4	2	1	3	4	1	2	4	3	0	1	4	2	3	3
13	3	3	3	3	0	2	3	2	2	3	3	2	1	2	1	3	2	1	3	3	1	2	4	2	3	2	3	3	3	3
14	3	2	1	1	1	1	2	3	1	1	2	3	2	1	3	3	3	1	1	2	3	2	2	3	3	3	2	3	2	1
15	2	3	3	2	3	1	3	1	3	1	1	2	2	4	2	3	2	2	1	3	1	3	3	3	3	3	3	2	3	3
16	2	3	2	0	1	1	3	4	0	2	2	0	4	3	0	4	3	1	2	4	0	3	4	0	4	0	4	2	3	2
17	4	3	2	3	0	0	4	3	4	0	2	3	0	1	4	3	3	1	3	2	3	1	2	2	3	0	2	4	3	2
18	3	3	2	3	1	3	3	2	3	0	3	3	1	2	1	3	3	1	3	3	3	3	2	3	3	2	4	3	3	2
19	2	2	3	2	1	2	3	2	2	1	2	2	2	2	1	3	2	1	2	2	2	1	2	1	2	3	2	2	2	3
20	4	4	1	3	1	2	3	1	3	3	1	3	2	3	1	3	4	1	3	4	2	4	3	3	3	2	4	4	4	1
21	2	3	4	2	0	1	4	3	2	0	4	2	2	1	4	4	4	3	1	1	1	4	0	4	0	0	3	2	3	4
22	3	3	3	3	0	3	3	3	3	1	3	2	1	2	2	4	2	2	2	4	3	3	4	3	3	4	4	3	3	3
23	1	1	4	4	4	4	1	0	4	1	3	1	0	2	0	4	1	3	4	4	0	1	3	1	4	1	3	1	1	4
24	4	4	1	2	1	3	3	2	3	0	3	3	2	4	2	4	4	0	4	1	0	4	3	4	2	0	4	4	4	1
25	2	3	3	2	1	1	3	3	3	1	1	1	1	3	3	3	3	2	3	2	1	2	3	2	1	1	3	2	3	3
26	4	3	3	4	1	2	3	2	4	3	3	3	2	2	4	4	4	2	3	4	1	4	3	2	4	1	4	4	3	3
27	2	1	3	1	1	3	4	3	1	3	3	3	4	1	0	3	3	3	2	4	0	3	3	1	4	0	4	2	1	3
28	3	3	1	3	1	4	4	3	3	2	3	3	3	2	3	4	3	1	3	3	1	3	3	3	1	3	2	3	3	1
29	4	3	2	0	0	3	3	1	3	3	2	3	1	4	0	3	3	0	4	4	0	3	1	1	4	0	4	4	3	2
30	3	4	1	2	1	3	3	3	2	3	0	3	1	3	0	4	3	0	1	4	0	3	2	3	4	0	4	3	4	1
31	3	2	1	2	1	1	3	3	3	2	1	3	2	2	3	3	3	2	2	2	4	2	1	2	3	1	3	3	2	1
32	3	3	1	2	1	3	3	1	3	1	2	3	1	2	3	3	3	1	2	2	3	3	1	2	2	2	3	3	3	1
33	3	2	2	3	0	3	1	3	4	1	3	2	3	1	3	3	1	3	3	1	1	1	1	2	3	1	3	3	2	2
34	3	3	1	3	0	2	4	2	3	4	2	3	2	2	1	4	4	1	3	4	1	3	2	2	3	2	4	3	3	1
35	2	2	3	2	1	4	3	3	2	3	1	1	3	2	1	3	1	3	1	2	3	2	1	2	3	1	3	2	2	3
36	3	4	1	3	0	3	3	2	3	1	1	3	2	3	4	4	3	2	3	3	3	4	0	3	2	1	4	3	4	1
37	3	4	2	3	1	1	4	2	3	3	2	3	0	3	3	3	3	0	3	4	3	3	1	3	3	1	4	3	4	2
38	3	2	1	2	4	3	3	2	3	1	3	3	2	2	0	2	3	1	3	3	1	1	3	3	3	1	3	3	2	1
39	3	2	2	1	1	3	3	3	3	2	3	2	3	2	3	4	2	3	3	2	3	1	3	2	2	2	3	3	2	2
40	3	3	1	3	0	1	4	1	3	1	2	3	1	3	1	4	3	1	2	4	3	3	3	2	4	2	4	3	3	1
41	3	3	1	2	0	3	4	3	4	2	4	3	1	3	1	3	3	3	1	2	3	3	3	2	2	3	2	3	3	1
42	3	3	1	2	2	3	4	2	3	2	3	4	1	3	3	4	3	0	3	2	2	4	2	4	2	0	4	3	3	1
43	3	4	1	3	0	3	3	1	3	1	2	2	1	2	0	3	2	2	3	2	3	3	3	4	3	1	3	3	4	1
44	3	3	2	2	1	2	3	2	3	1	2	3	2	2	1	4	3	2	2	2	3	3	1	2	3	2	2	3	3	2
45	0	2	3	1	0	3	3	2	3	2	3	3	3	2	2	2	1	1	3	3	2	3	4	1	2	2	2	0	2	3
46	3	4	2	2	0	3	4	3	3	0	3	3	2	3	1	4	3	3	3	2	4	4	1	3	3	1	3	3	4	2
47	3	2	1	2	1	3	3	1	3	3	1	3	2	0	1	3	2	1	3	4	4	2	2	3	3	1	4	3	2	1
48	3	4	2	3	0	3	3	1	4	1	3	4	1	3	3	3	4	0	4	3	2	4	3	4	3	1	4	3	4	2
49	3	4	1	3	1	4	3	1	4	3	2	4	1	3	3	4	3	1	3	3	2	3	1	3	2	2	3	3	4	1

no	Q31	Q32	Q33	Q34	Q35	Q36	Q37	Q38	Q39	Q40	Q41	Q42	Q43	Q44	Q45	Q46	Q47	Q48	Q49	Q50	Q51	Q52	Q53	Q54	Q55	Q56	Q57	Q58	Q59	Q60
50	3	4	1	2	1	1	4	1	1	1	1	4	3	4	0	4	4	0	3	4	0	1	3	3	4	1	4	3	4	1
51	4	3	0	3	3	4	4	1	3	1	4	3	3	2	2	3	3	1	1	1	2	3	2	1	1	4	2	4	3	0
52	3	2	0	2	3	3	3	2	2	1	3	3	3	2	1	3	3	1	2	3	4	3	2	2	3	4	3	3	2	0
53	2	3	1	2	1	3	4	1	3	2	2	3	2	3	4	3	3	1	2	2	0	4	0	4	2	2	3	2	3	1
54	3	3	2	2	0	3	4	1	3	1	3	4	2	4	2	4	4	1	4	2	1	4	3	3	1	1	4	3	3	2
55	3	4	3	2	1	2	3	3	2	3	3	3	2	3	2	3	2	3	3	2	1	3	1	2	3	1	2	3	4	3
56	3	4	2	2	1	1	4	2	3	1	2	4	3	3	0	4	3	2	1	4	3	3	3	2	4	3	3	3	4	2
57	3	4	2	3	0	2	4	0	4	3	1	3	1	3	1	4	4	1	3	4	0	3	2	3	3	2	4	3	4	2
58	3	3	2	2	0	2	4	3	0	0	3	3	4	1	0	3	2	1	0	3	3	3	3	3	3	3	3	2	3	2
59	3	3	1	3	0	4	3	1	4	1	3	3	1	3	1	4	2	1	4	4	3	3	1	3	4	3	3	3	3	1
60	3	2	0	2	1	4	3	1	3	0	1	1	1	0	3	3	1	2	3	3	3	1	1	1	4	2	2	3	2	0
61	1	3	1	2	1	3	3	1	3	1	3	4	1	2	1	3	3	0	3	3	3	3	2	2	3	3	3	1	3	1
62	3	3	2	2	1	1	4	2	2	2	3	2	2	4	3	3	3	2	2	3	1	3	3	2	3	0	4	3	3	2
63	4	4	1	2	0	2	1	2	3	4	2	3	2	2	1	3	2	1	3	3	3	2	2	0	2	1	3	4	4	1
64	2	3	3	2	1	3	3	1	2	1	4	3	3	2	1	3	3	3	2	2	1	3	4	3	2	0	3	2	3	3
65	3	2	3	2	1	3	3	1	3	1	2	3	1	2	3	3	2	2	3	4	1	2	3	3	1	2	4	3	2	3
66	4	4	2	4	1	3	4	0	4	3	1	3	1	4	1	4	4	0	4	4	0	4	2	3	2	1	4	4	4	2
67	3	4	2	3	0	3	4	2	3	3	2	3	3	3	3	3	3	1	2	4	3	2	3	1	3	3	4	3	4	2
68	3	3	2	2	1	3	0	2	3	2	1	3	1	2	1	4	3	2	2	2	1	3	2	3	2	2	3	3	3	2
69	3	3	2	3	1	1	4	0	4	3	3	3	1	3	0	3	4	1	2	3	1	3	2	3	3	2	4	3	3	2
70	2	2	1	3	1	4	3	2	3	3	3	3	1	2	0	3	1	1	3	2	3	3	3	2	3	4	2	2	2	1
71	2	2	3	1	1	4	2	4	3	2	3	2	3	1	0	2	1	1	2	3	1	1	3	2	2	1	2	2	2	3
72	2	2	3	2	1	1	3	3	3	3	2	2	2	3	2	3	2	2	2	2	3	1	2	2	3	2	3	2	2	3
73	3	2	3	2	1	3	3	3	3	2	2	3	2	1	1	4	3	2	1	3	2	2	2	2	3	2	3	3	2	3
74	2	3	4	2	1	0	2	4	2	2	3	3	3	2	1	4	3	3	2	3	3	4	0	2	1	2	3	2	3	4
75	3	3	1	1	1	3	3	2	1	2	3	3	2	1	1	3	3	1	2	3	3	3	2	3	2	2	2	3	3	1
76	4	2	1	3	1	3	4	3	3	1	2	2	1	2	3	3	2	1	3	3	3	2	0	1	2	2	3	4	2	1
77	3	3	1	3	1	3	3	0	4	3	3	3	1	3	1	2	3	1	3	3	1	1	1	4	4	2	2	3	3	1
78	3	4	3	3	1	3	3	2	4	2	2	3	1	3	3	3	3	1	4	3	2	3	2	3	2	2	3	3	4	3
79	3	3	3	2	1	1	3	3	3	1	1	2	1	4	1	3	3	1	3	3	3	3	2	1	3	1	3	3	3	3
80	3	3	3	3	0	4	4	2	3	2	1	1	2	3	2	4	3	0	3	3	4	2	3	4	3	2	4	3	3	3
81	3	3	1	3	1	3	3	1	4	2	2	2	1	3	1	3	2	3	4	4	2	3	3	3	3	1	3	3	3	1
82																														
83																														
84	4	3	3	4	1	2	3	2	4	3	3	3	2	2	4	4	4	2	3	4	1	4	3	2	4	1	4	4	3	3

Table 11.35: Centred Scores NEO-FFI – Korea

no	Neuroticism	Extraversion	Openness	Agreeableness	Consciousness
1	-0,817	0,350	0,517	-0,317	0,267
2	0,400	-0,017	-0,267	-0,267	0,150
3	-0,467	0,033	0,367	0,117	-0,050
4	-0,950	0,633	-0,033	-0,867	1,217
5	-0,900	0,100	-0,650	1,017	0,433
6	-1,400	0,100	-0,067	0,683	0,683
7	0,433	0,183	-0,067	-0,233	-0,317
8	-0,517	0,400	-0,267	0,483	-0,100
9	-1,502	0,240	-0,510	1,157	0,490
10	-0,633	0,367	0,200	-0,050	0,117
11	-0,317	0,350	-0,317	0,350	-0,067
12	0,233	0,817	-0,433	-0,433	-0,183
13	-0,167	0,417	-0,083	0,000	-0,167
14	0,333	-0,667	-0,167	0,250	0,250
15	-0,233	0,267	-0,400	0,183	0,183
16	0,900	-0,767	0,317	-0,517	0,067
17	-0,600	0,817	-0,433	0,067	0,150
18	-0,667	0,500	-0,500	0,333	0,333
19	-0,133	0,033	-0,217	0,367	-0,050
20	-1,083	0,500	-0,333	0,083	0,833
21	-0,300	0,200	-0,717	-0,050	0,867
22	-0,783	0,383	-0,283	0,633	0,050
23	-0,367	1,133	0,133	-0,117	-0,783
24	-0,633	0,700	-1,133	-0,050	1,117
25	0,317	0,483	-0,600	-0,517	0,317
26	-0,483	0,433	-0,067	-0,233	0,350
27	0,850	-0,733	0,017	-0,317	0,183
28	-0,350	0,400	-0,350	0,483	-0,183
29	-1,183	0,650	-0,017	-0,017	0,567
30	-0,717	0,117	0,033	-0,050	0,617
31	-0,417	0,167	0,000	0,000	0,250
32	-0,850	-0,183	-0,017	0,567	0,483
33	-0,550	1,033	-0,550	0,533	-0,467
34	-0,483	0,100	-0,317	0,100	0,600
35	0,067	0,233	-0,017	0,067	-0,350
36	-1,067	0,850	-0,400	0,183	0,433
37	-1,067	0,517	0,100	-0,400	0,850
38	-0,633	0,700	-0,133	0,033	0,033
39	0,267	0,433	-0,650	0,433	-0,483
40	-0,933	0,317	-0,433	0,400	0,650
41	-0,217	0,200	-0,633	0,450	0,200
42	-1,367	0,550	-0,283	0,383	0,717
43	-1,100	1,150	-0,683	0,400	0,233
44	-0,650	0,017	-0,150	0,517	0,267
45	-0,150	0,517	-0,150	-0,067	-0,150
46	-0,133	0,700	-1,300	0,367	0,367
47	-0,667	0,417	0,167	0,000	0,083
48	-1,167	1,083	-0,500	0,000	0,583
49	-1,583	0,750	-0,583	0,833	0,583
50	-0,683	0,317	0,067	-0,517	0,817
51	-0,867	-0,033	-0,700	1,133	0,467

no	Neuroticism	Extraversion	Openness	Agreeableness	Consciousness
52	-0,750	-0,167	-0,167	0,917	0,167
53	-1,067	0,017	-0,150	0,350	0,850
54	-0,817	0,517	-0,650	0,267	0,683
55	-0,367	0,133	-0,033	-0,200	0,467
56	-0,733	0,100	-0,150	0,350	0,433
57	-0,883	0,950	-0,633	-0,217	0,783
58	0,633	-0,950	-0,617	0,633	0,300
59	-1,333	0,917	-0,333	0,750	0,000
60	-0,833	0,333	0,167	0,750	-0,417
61	-0,950	0,550	-0,367	0,383	0,383
62	-0,100	-0,017	-0,267	-0,267	0,650
63	-0,750	0,500	0,083	0,250	-0,083
64	-0,150	0,183	-0,400	-0,317	0,683
65	-0,600	0,733	-0,433	0,233	0,067
66	-1,513	0,987	-0,217	0,154	0,571
67	-0,333	0,000	-0,250	0,583	0,000
68	-0,317	0,517	-0,733	0,350	0,183
69	-0,950	0,550	-0,200	-0,200	0,800
70	-0,817	0,600	-0,233	0,767	-0,317
71	0,767	-0,067	-0,067	0,017	-0,650
72	-0,033	0,383	-0,117	-0,200	-0,033
73	-0,367	0,050	-0,033	0,300	0,050
74	0,367	-0,050	-0,633	0,117	0,200
75	-0,350	-0,100	-0,183	0,400	0,233
76	-0,717	0,367	-0,300	0,700	-0,050
77	-1,483	0,933	0,267	0,267	0,017
78	-0,850	0,900	-0,517	-0,017	0,483
79	-0,167	0,167	-0,250	-0,250	0,500
80	-0,933	0,733	-0,183	0,483	-0,100
81	-0,750	0,917	0,000	0,083	-0,250
82					
83					
84	-0,483	0,433	-0,067	-0,233	0,350

Table 11.36: Raw Data WPI – Korea

no	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
1	2	2	2	4	3	0	3	4	2	3	4	3	3	2	1	3	2	1	2	4	2	2	4	3	4	2	3	4	4	4
2	2	3	2	2	2	0	2	3	1	0	1	1	2	3	3	2	4	0	3	4	1	3	4	3	4	2	4	4	3	4
3	2	1	4	3	4	1	4	3	3	2	2	1	4	3	3	3	3	1	1	3	2	3	2	3	3	3	3	3	2	2
4	0	2	3	4	4	4	4	2	2	3	2	4	3	2	1	3	3	4	4	4	3	2	1	4	4	3	4	4	4	4
5	2	3	1	2	3	1	2	3	1	2	3	3	2	1	2	3	3	3	2	4	4	0	1	2	3	1	2	3	3	4
6	3	2	2	4	4	3	3	3	2	2	1	2	2	2	3	3	3	1	2	4	3	1	2	2	3	2	2	3	3	3
7	2	3	2	3	3	1	3	2	2	2	3	2	1	1	3	3	2	1	2	3	2	3	3	2	3	3	4	4	2	4
8	4	3	1	3	3	2	3	2	1	2	2	2	2	1	3	3	3	1	3	4	3	3	1	3	3	1	3	3	3	3
9	3	1	1	1	3	1	3	2	3	1	2	1	1	2	1	2	2	1	1	2	2	3	2	1	1	1	1	2	1	2
10	1	0	3	4	4	2	3	3	2	3	3	4	1	4	1	4	3	3	3	2	2	3	3	1	4	3	2	3	2	2
11	2	3	2	3	3	1	2	3	2	1	2	1	3	3	3	3	3	1	2	4	2	2	1	2	3	2	3	4	3	4
12	3	2	3	4	4	4	4	4	2	4	3	4	1	0	4	3	2	2	3	4	3	3	2	4	2	2	3	4	4	3
13	3	3	3	3	3	2	3	3	2	1	3	2	2	3	3	3	2	1	2	4	2	3	3	2	3	3	3	3	2	4
14	1	3	2	3	4	2	4	3	2	0	2	1	2	1	1	3	4	2	1	4	0	1	4	2	4	3	3	4	3	4
15	4	3	1	3	3	1	3	1	1	2	1	2	1	1	3	3	4	2	3	3	3	3	1	2	1	1	1	3	3	3
16	1	4	4	4	4	3	4	4	3	3	4	3	4	3	3	4	3	0	3	3	3	3	2	3	4	4	4	4	4	3
17	1	3	4	4	4	4	3	1	0	1	1	4	4	2	1	3	3	1	4	4	4	3	3	4	3	4	4	4	4	2
18	3	3	3	3	3	4	2	2	2	3	2	3	2	2	3	3	3	3	3	2	3	3	2	3	3	2	2	3	3	2
19	2	1	2	2	1	1	3	3	2	1	2	2	2	2	2	2	3	2	2	4	2	2	1	2	2	2	2	3	1	4
20	2	1	3	3	4	1	3	2	3	2	2	1	3	3	1	3	3	1	2	3	2	3	2	3	3	3	3	4	3	3
21	3	4	1	4	2	3	2	2	0	3	2	3	2	0	3	4	4	2	3	4	4	3	2	3	3	1	4	4	4	4
22	4	2	3	3	3	0	4	3	2	1	4	4	3	2	3	4	3	0	1	4	2	0	3	3	3	3	3	4	3	4
23	3	4	1	4	4	4	4	4	0	1	4	4	2	0	4	4	0	4	4	4	4	4	3	4	2	1	4	4	4	4
24	1	3	2	4	4	3	2	3	3	0	4	4	2	3	3	3	4	2	1	2	0	4	3	4	4	2	4	4	4	2
25	3	3	1	4	3	3	2	1	2	3	1	3	2	1	3	3	2	2	3	2	2	3	2	3	3	1	3	3	3	2
26	2	3	4	4	4	3	4	4	3	2	4	4	4	2	3	3	4	1	3	4	4	3	1	4	4	3	4	4	4	4
27	3	3	1	3	3	4	3	3	0	1	3	1	1	1	4	3	3	1	3	4	3	1	2	3	2	1	3	4	3	3
28	4	3	2	3	4	4	3	3	0	2	4	1	3	3	3	3	2	1	2	4	3	1	2	3	3	1	3	4	3	4
29	0	4	4	4	4	4	4	4	4	0	4	3	4	3	1	4	4	2	2	3	4	0	3	3	4	4	4	4	3	4
30	2	3	3	2	3	2	4	3	3	0	3	1	2	1	2	3	1	1	1	3	3	2	3	4	3	3	3	3	3	3
31	4	2	2	3	3	2	3	2	1	1	3	2	1	1	3	3	2	1	2	4	3	3	2	3	2	3	3	4	3	3
32	3	1	2	3	3	3	3	3	2	3	2	2	2	2	2	3	3	2	2	2	2	2	1	3	3	2	2	4	3	2
33	3	3	1	3	2	3	2	1	0	3	1	2	1	1	3	4	2	3	1	4	3	1	1	3	3	1	3	3	3	4
34	3	3	3	3	4	1	4	4	3	1	4	1	3	0	3	3	4	1	1	4	3	3	2	3	3	3	4	4	3	4
35	1	3	1	3	3	1	2	3	1	2	1	1	2	3	3	2	2	3	3	4	2	1	2	4	4	1	4	4	4	3
36	3	4	2	4	4	3	3	2	3	3	3	4	1	1	3	3	2	1	3	3	3	4	1	4	4	2	2	3	4	3
37	2	4	3	4	4	2	3	3	1	1	1	3	3	3	1	4	4	3	3	4	2	0	4	4	4	2	4	4	4	4
38	4	3	3	3	3	0	3	3	1	3	3	1	2	2	1	3	1	3	2	3	3	0	1	4	4	3	3	3	3	3
39	3	3	2	3	3	2	2	1	1	3	2	2	0	2	3	3	2	1	2	3	4	3	1	3	4	2	3	4	2	3
40	2	3	3	3	4	2	4	4	1	2	3	3	3	2	3	3	3	1	3	4	3	2	3	3	3	3	3	4	3	3
41	3	3	3	3	3	3	2	2	1	3	4	3	2	3	2	4	3	1	1	4	3	1	1	3	4	3	4	4	3	4
42	4	3	2	4	4	1	3	3	0	4	3	3	1	1	2	4	3	0	3	4	2	1	3	4	3	1	3	4	4	4
43	4	4	2	3	3	3	3	3	1	1	2	4	2	3	1	2	3	3	1	4	1	2	2	3	4	2	3	4	4	4
44	3	1	1	2	3	2	3	3	3	2	2	2	1	2	1	3	2	2	2	4	2	2	2	2	2	1	2	4	2	4
45	2	2	1	4	3	4	3	3	1	2	3	4	1	2	3	3	1	1	4	2	1	3	3	3	3	1	4	4	4	3
46	4	3	2	4	4	3	3	2	0	3	2	2	2	2	3	4	2	0	4	3	3	3	1	4	4	3	4	4	4	3
47	3	2	4	3	3	3	4	2	3	3	3	2	3	2	3	4	3	1	1	3	1	3	1	3	3	3	2	4	4	2
48	4	2	2	3	3	3	3	2	3	1	2	2	2	2	3	3	3	1	1	4	1	2	1	3	3	2	3	3	4	4
49	3	2	2	3	4	1	3	2	2	3	2	2	2	1	2	4	3	3	2	4	3	2	2	2	4	2	3	4	2	4

no	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
50	1	1	4	4	4	3	4	4	3	3	3	3	4	3	3	3	3	1	3	4	3	3	3	3	3	4	3	3	4	3
51	1	2	1	1	3	0	1	3	1	1	0	0	0	1	2	3	3	2	1	4	3	1	1	2	2	1	3	3	1	4
52	3	3	3	3	3	1	4	4	2	1	2	2	3	2	3	3	1	1	2	3	2	1	2	2	1	3	2	2	2	3
53	1	1	3	4	4	1	2	4	4	1	1	1	2	2	1	4	3	1	3	4	3	3	4	1	2	2	3	4	1	4
54	4	2	3	4	2	0	2	3	3	2	1	3	2	3	3	4	3	4	3	4	4	3	3	4	4	2	3	4	4	3
55	2	3	3	2	3	3	2	2	1	2	3	3	2	1	3	2	3	3	2	3	2	2	3	2	3	3	2	3	2	3
56	3	1	3	3	4	1	4	2	1	1	3	1	3	4	3	3	4	2	3	4	3	2	1	3	3	4	4	4	4	3
57	4	1	3	3	4	1	4	4	3	1	4	4	3	2	3	4	3	0	1	4	1	0	3	4	3	3	4	4	3	4
58	3	2	1	4	3	1	2	1	2	2	1	2	1	1	3	3	2	1	3	3	3	1	2	4	3	2	1	3	3	3
59	4	3	3	4	3	1	3	4	1	3	3	2	1	1	4	2	3	1	3	3	3	1	3	4	4	2	3	3	3	3
60	1	2	3	2	3	1	3	3	1	1	3	2	3	2	2	3	2	1	1	2	2	2	2	1	2	2	2	2	3	2
61	3	2	3	3	3	2	3	2	1	2	2	2	3	1	2	2	3	1	2	4	1	1	4	4	3	3	3	2	4	3
62	3	2	3	4	4	2	3	3	2	3	2	3	2	3	3	4	3	4	3	3	3	3	2	3	3	3	3	3	3	4
63	1	1	2	1	3	1	2	4	3	3	2	3	2	3	1	3	4	3	1	4	1	1	3	3	3	2	2	4	2	4
64	3	3	2	3	4	2	2	1	1	3	4	2	1	1	4	4	3	1	2	4	4	3	3	3	4	2	1	4	3	4
65	3	3	3	4	3	4	2	3	1	2	3	2	2	2	3	3	3	3	4	2	3	4	1	3	3	2	3	4	4	2
66	2	1	4	4	4	4	4	4	2	4		3	4	3	2	4	4	3	4	4	2	0	4	4	4	4	4	4	4	4
67	2	3	3	3	4	0	4	2	3	0	3	1	3	3	1	3	2	0	1	4	3	1	3	2	4	4	4	4	3	4
68	3	2	2	3	4	1	3	3	1	3	2	3	2	2	3	3	3	0	3	4	1	2	2	3	3	2	2	3	3	3
69	1	3	4	4	4	1	4	3	1	1	3	2	3	2	2	3	4	3	2	4	3	2	3	1	3	4	3	4	3	4
70	3	1	3	2	3	0	2	3	2	1	1	0	2	2	2	3	3	0	1	3	3	0	2	3	2	3	4	3	2	3
71	2	2	2	4	3	1	2	2	0	3	1	3	1	3	2	3	3	1	3	4	3	2	2	3	3	2	4	4	3	3
72	2	3	1	3	3	2	3	2	1	2	2	2	1	1	2	3	2	1	3	3	2	3	2	3	3	3	2	3	3	2
73	3	2	3	3	3	3	3	2	3	2	3	2	3	2	2	3	3	1	3	3	1	3	2	3	2	2	3	3	3	2
74	4	4	1	3	4	3	2	3	1	1	3	1	1	1	4	3	3	1	3	4	3	0	4	3	1	1	4	4	3	4
75	3	1	3	3	3	1	3	2	1	2	2	1	2	3	3	3	3	1	2	3	3	3	2	2	3	2	3	4	3	3
76	3	3	2	3	3	3	2	2	1	3	2	2	3	1	4	4	2	4	3	4	4	3	4	4	4	2	3	3	4	3
77	1	3	3	2	4	1	3	3	2	0	2	2	3	3	1	2	3	2	2	4	2	1	3	2	2	3	3	3	3	4
78	3	1	3	3	3	2	3	3	2	3	2	1	2	2	3	3	3	2	3	3	3	3	1	3	3	3	3	3	3	3
79	3	1	3	3	3	3	3	1	1	2	3	3	2	2	3	3	3	3	1	3	3	3	3	3	3	3	3	3	3	3
80	4	4	4	3	4	3	3	4	2	1	3	3	2	3	3	3	3	1	3	4	1	1	3	4	4	3	4	4	4	4
81	1	2	3	3	4	1	3	3	3	2	4	4	3	2	1	3	3	2	1	4	2	3	3	3	3	3	4	4	2	4
82																														
83																														
84	2	3	4	4	4	3	4	4	3	2	4	4	4	2	3	3	4	1	3	4	4	3	1	4	4	3	4	4	4	4

Table 11.37: Centred Scores WPI – Korea

no.	Primary Scale		Secondary Scale			
	Intrinsic Motivation	Extrinsic Motiation	Enjoyment Scale	Challenge Scale	Outward Scale	Compensation Scale
1	0,372	-0,294	0,840	-0,162	-0,475	0,067
2	0,431	-0,369	1,283	-0,543	-0,353	-0,400
3	0,512	-0,488	0,331	0,719	-0,648	-0,167
4	0,033	0,100	0,342	-0,319	0,067	0,167
5	-0,046	0,021	0,427	-0,586	0,282	-0,500
6	0,040	-0,027	0,388	-0,357	0,010	-0,100
7	0,216	-0,184	0,688	-0,324	-0,343	0,133
8	-0,276	0,258	0,267	-0,895	0,220	0,333
9	0,205	-0,328	0,249	0,190	-0,510	-0,067
10	0,148	-0,119	0,052	0,257	-0,578	0,800
11	0,280	-0,320	0,529	-0,005	-0,363	-0,233
12	-0,218	0,316	0,342	-0,857	0,273	0,400
13	0,320	-0,280	0,529	0,081	-0,303	-0,233
14	0,657	-0,610	1,360	-0,148	-0,498	-0,833
15	-0,336	0,331	0,171	-0,914	0,197	0,600
16	0,339	-0,194	0,244	0,448	-0,358	0,133
17	0,026	0,092	0,210	-0,186	0,088	0,100
18	-0,367	0,433	-0,354	-0,381	0,483	0,333
19	0,340	-0,327	0,821	-0,210	-0,357	-0,267
20	0,428	-0,439	0,583	0,583	-1,012	0,100
21	-0,463	0,537	0,552	-1,624	0,488	0,633
22	0,506	-0,494	0,810	0,157	-0,292	-0,900
23	-0,434	0,566	0,398	-1,386	0,698	0,300
24	0,161	-0,106	0,252	0,057	0,042	-0,400
25	-0,508	0,559	-0,227	-0,829	0,438	0,800
26	0,234	-0,166	0,356	0,095	-0,082	-0,333
27	-0,081	0,119	0,727	-1,005	0,295	-0,233
28	0,090	-0,110	0,406	-0,271	0,085	-0,500
29	0,688	-0,579	0,685	0,690	-0,285	-1,167
30	0,320	-0,280	0,479	0,138	-0,003	-0,833
31	0,020	0,020	0,446	-0,467	0,063	-0,067
32	-0,052	0,081	0,127	-0,257	0,022	0,200
33	-0,458	0,476	0,250	-1,267	0,647	0,133
34	0,518	-0,482	0,950	0,024	-0,407	-0,633
35	-0,028	0,039	0,577	-0,719	0,175	-0,233
36	-0,477	0,523	-0,415	-0,548	0,502	0,567
37	0,236	-0,164	0,883	-0,505	0,020	-0,533
38	0,011	0,011	0,054	-0,038	0,150	-0,267
39	-0,339	0,328	-0,035	-0,686	0,292	0,400
40	0,301	-0,232	0,698	-0,152	-0,215	-0,267
41	0,114	-0,086	0,260	-0,052	0,055	-0,367
42	-0,083	0,117	0,706	-0,986	-0,075	0,500
43	0,062	-0,004	0,604	-0,557	0,443	-0,900
44	0,228	-0,239	0,756	-0,376	-0,342	-0,033
45	-0,231	0,302	0,342	-0,886	0,153	0,600
46	-0,326	0,408	-0,006	-0,690	0,228	0,767
47	0,124	-0,076	-0,029	0,300	-0,163	0,100
48	0,094	-0,106	0,365	-0,214	0,092	-0,500
49	0,073	-0,060	0,538	-0,457	-0,190	0,200

no.	Primary Scale		Secondary Scale			
	Intrinsic Motivation	Extrinsic Motiation	Enjoyment Scale	Challenge Scale	Outward Scale	Compensation Scale
50	0,422	-0,311	0,379	0,471	-0,517	0,100
51	0,200	-0,267	0,988	-0,700	-0,250	-0,300
52	0,292	-0,308	0,310	0,271	-0,312	-0,300
53	0,616	-0,584	1,063	0,105	-1,143	0,533
54	-0,201	0,266	0,219	-0,681	0,282	0,233
55	0,038	-0,029	0,200	-0,148	0,173	-0,433
56	0,416	-0,384	0,479	0,343	-0,377	-0,400
57	0,658	-0,609	0,963	0,310	-0,397	-1,033
58	-0,333	0,333	-0,075	-0,629	0,300	0,400
59	-0,087	0,113	0,450	-0,700	0,220	-0,100
60	0,313	-0,287	0,242	0,395	-0,313	-0,233
61	0,212	-0,188	0,556	-0,181	-0,048	-0,467
62	-0,053	0,147	0,121	-0,252	0,003	0,433
63	0,543	-0,523	0,994	0,029	-0,485	-0,600
64	-0,191	0,276	0,129	-0,557	0,263	0,300
65	-0,364	0,436	-0,233	-0,514	0,353	0,600
66	0,450	-0,338	0,698	0,103	-0,418	-0,224
67	0,760	-0,773	0,796	0,719	-0,677	-0,967
68	0,082	-0,051	0,438	-0,324	-0,243	0,333
69	0,546	-0,521	0,848	0,200	-0,582	-0,400
70	0,517	-0,550	0,777	0,219	-0,492	-0,667
71	-0,040	0,093	0,583	-0,752	-0,127	0,533
72	-0,196	0,204	0,117	-0,552	0,040	0,533
73	0,156	-0,111	0,133	0,181	-0,300	0,267
74	0,112	-0,088	0,956	-0,852	0,152	-0,567
75	0,178	-0,156	0,463	-0,148	-0,317	0,167
76	-0,419	0,514	0,031	-0,933	0,638	0,267
77	0,678	-0,656	0,871	0,457	-0,483	-1,000
78	0,006	0,006	0,160	-0,171	-0,192	0,400
79	-0,008	0,059	0,165	-0,205	0,205	-0,233
80	0,303	-0,230	0,627	-0,067	0,088	-0,867
81	0,590	-0,543	0,777	0,376	-0,632	-0,367
82						
83						
84	0,234	-0,166	0,356	0,095	-0,082	-0,333

Table 11.38: Raw Data SVS – Korea (part 1)

no	V1	V2	V3	V4	V5	V6	V7	V8	V9	V10	V11	V12	V13	V14	V15	V16	V17	V18	V19	V20	V21	V22	V23	V24	V25	V26	V27	V28	V29	V30
1	6	3	4	5	7	3	4	2	6	7	7	7	2	6	6	7	4	2	6	5	5	7	6	6	7	5	4	7	6	5
2	6	3	6	6	7	3	6	3	3	6	3	7	6	6	7	6	0	0	3	6	3	7	6	-1	6	3	6	7	-1	6
3	3	6	3	3	6	6	3	3	3	7	1	3	3	5	2	6	5	1	6	6	6	6	3	6	5	5	2	3	6	3
4	1	7	5	6	4	5	6	2	4	6	5	6	2	5	3	1	1	-1	6	2	3	6	6	0	4	6	6	6	1	3
5	3	5	-1	3	7	4	2	2	3	7	2	4	0	6	2	3	2	1	1	1	4	4	2	3	6	4	0	4	3	2
6	5	4	5	5	4	3	4	3	3	7	6	5	2	6	6	4	0	3	4	4	5	6	5	1	-1	3	3	4	1	2
7	6	6	5	4	6	5	4	4	6	7	4	6	0	5	5	5	3	3	3	4	6	6	5	4	5	5	5	6	4	3
8	5	6	3	4	6	4	5	4	4	6	5	4	3	7	3	3	3	3	7	6	5	7	4	4	3	6	2	5	2	4
9	4	4	2	3			4	2	3	5	2	3	0	4	6	4	-1	2	3	4	3	7	2	2	3	5	1	5	2	2
10	3	5	1	5	7	4	0	5	2	5	4	5	4	6	3	1	4	-1	6	3	6	5	-1	3	4	4	-1	6	4	7
11	4	4	0	2	5	4	3	3	4	6	3	4	4	7	4	5	4	3	5	3	3	5	4	3	5	7	1	5	3	3
12	3	6	6	5	5	3	6	2	2	3	5	4	3	4	3	2	1	0	2	6	5	7	6	3	3	2	4	6	-1	2
13	3	3	0	4	7	4	2	1	6	7	1	1	1	5	4	5	4	2	4	2	4	3	2	6	4	3	-1	5	3	2
14	4	4	0	1	6	4	4	5	3	6	5	3	2	6	5	6	2	-1	4	3	4	4	4	3	2	7	0	5	4	5
15	2	3	2	2	1	2	5	5	4	7	4	3	2	3	4	2	2	1	2	2	3	6	4	2	-1	4	3	4	2	4
16	5	5	3	5	7	2	2	4	5	3	2	5	3	6	4	6	4	1	5	4	6	4	5	3	6	6	-1	3	4	3
17	6	4	-1	1	7	2	3	5	6	2	4	3	4	5	2	1	3	0	2	4	4	7	3	0	6	3	1	5	0	5
18	2	5	3	6	4	3	5	1	6	6	2	4	0	2	1	3	1	-1	4	0	3	5	7	1	5	2	6	4	0	0
19	6	6	1	2	5	5	2	6	1	5	4	-1	0	3	2	4	6	3	5	6	5	6	1	4	1	5	0	4	3	7
20																														
21	2	4	-1	4	2	2	1	2	3	3	4	5	1	5	6	2	0	1	6	3	6	7	6	1	2	2	0	7	1	6
22	4	5	3	4	4	3	4	3	5	5	3	2	2	4	4	6	3	4	3	4	5	5	5	3	4	4	2	4	3	4
23	6	5	3	3	3	2	6	3	4	3	0	7	6	7	3	6	2	7	7	3	7	7	7	3	5	2	5	7	5	5
24	3	5	6	6	4	3	7	3	4	5	-1	5	2	2	0	3	0	2	4	3	5	5	7	4	0	0	2	5	-1	-1
25	6	4	3	3	4	3	5	5	6	6	5	4	4	4	2	4	3	5	5	5	5	5	5	4	6	5	2	5	1	7
26	5	7	3	3	5	6	6	5	5	5	3	5	3	7	6	5	2	2	5	5	5	3	6	2	3	5	3	6	5	3
27	1	3	2	5	6	2	5	1	4	7	3	6	6	3	3	6	2	5	5	2	4	5	6	0	1	3	2	4	3	3
28	2	3	-1	3	5	3	6	3	6	7	4	4	2	3	3	5	1	3	5	4	1	6	3	0	7	5	0	4	4	1
29	7	7	7	7	7	7	3	3	7	7	7	7	3	7	7	7	-1	3	6	6	7	7	6	4	4	5	2	3	4	-1
30	3	4	-1	1	6	2	3	4	5	7	6	2	4	5	6	6	4	2	1	3	4	5	3	3	5	6	1	3	5	2
31	6	4	2	5	6	4	4	3	5	3	3	4	3	3	3	3	2	2	3	4	6	7	3	2	6	3	2	4	2	2
32	4	6	1	5	7	4	5	4	3	6	4	5	3	4	3	4	2	1	3	4	5	5	3	3	2	4	1	5	1	2
33	5	6	4	6	4	2	3	3	6	6	6	5	4	4	6	2	2	1	4	2	5	7	4	2	3	4	1	7	2	1
34	5	7	3	4	7	7	4	4	6	7	7	5	4	7	7	7	4	4	7	7	7	7	6	5	5	6	5	7	6	5
35	4	6	0	2	5	4	6	2	5	5	3	1	1	5	5	4	2	5	6	5	3	7	6	0	6	5	0	5	1	4
36	7	6	3	6	5	2	4	2	6	6	3	6	2	5	4	4	1	-1	5	3	5	4	6	2	7	5	1	4	2	4

no	V1	V2	V3	V4	V5	V6	V7	V8	V9	V10	V11	V12	V13	V14	V15	V16	V17	V18	V19	V20	V21	V22	V23	V24	V25	V26	V27	V28	V29	V30
37	5	6	3	1	6	3	4	5	4	7	4	5	2	6	2	5	2	1	6	6	3	5	4	3	3	4	4	4	5	4
38	3	4	0	5	5	2	4	1	6	7	4	3	2	3	2	3	1	3	2	4	5	6	5	2	5	2	1	6	3	4
39	4	3	0	2	4	4	5	2	4	7	3	4	2	5	3	4	2	3	3	4	6	6	3	2	1	3	0	5	3	3
40	5	4	3	3	5	3	4	6	4	5	7	5	5	4	5	5	5	3	5	5	5	7	4	6	4	4	2	5	2	7
41	3	4	4	4	5	3	4	4	4	5	5	5	5	5	4	5	4	3	3	4	2	5	4	2	5	5	4	5	4	4
42	2	3	3	4	6	5	3	3	5	5	4	5	4	5	3	3	4	3	4	4	5	6	5	1	6	5	5	5	4	4
43	4	5	3	4	7	3	4	3	1	5	6	5	5	6	5	6	2	0	3	4	5	7	5	2	7	3	5	6	2	3
44	2	4	1	3	4	1	1	2	5	6	4	4		5	1	2	1	1	6	1	4	5	2	1	1	3	2	3	0	2
45	3	6	2	4	7	5	3	3	5	7	3	5	2	4	5	4	1	1	6	6	3	6	3	2	3	3	2	4	1	3
46	7	7	3	4	3	3	5	7	7	7	6	3	7	7	4	7	7	4	7	7	3	1	5	3	5	5	3	7	-1	7
47	5	2	6	4	5	2	5	6	4	6	5	7	1	3	3	2	2	1	1	2	1	4	6	0	6	4	4	4	3	3
48	3	3	6	6	6	5	7	5	6	6	5	7	6	6	5	4	4	2	5	5	5	6	6	4	4	3	6	6	2	3
49	6	6	-1	2	4	5	3	3	4	6	5	3	2	6	3	3	5	2	7	2	4	7	5	4	4	4	1	6	3	3
50	2	4	5	5	7	6	3	5	5	5	3	6	5	6	3	6	2	2	3	2	5	6	1	1	5	5	2	5	2	4
51	5	6	2	3	6	7	6	3	-1	5	5	3	3	6	4	1	-1	4	7	7	7	7	2	1	2	6	0	7	1	5
52	5	4	-1	2	4	5	3	6	5	5	4	1	2	4	3	5	5	2	5	4	6	6	5	3	2	6	3	5	2	7
53	-1	0	3	4	6	1	2	5	6	6	3	4	7	6	2	4	1	2	2	1	1	5	4	0	6	2	3	3	2	5
54	2	4	5	3	3	2	6	3	3	5	5	6	4	7	4	4	0	1	6	1	6	6	5	2	2	5	7	6	1	0
55	3	7	0	4	4	3	4	3	4	5	1	6	0	2	3	4	1	0	6	1	6	4	0	0	0	5	0	5	0	1
56	4	3	1	3	7	4	3	5	5	7	3	2	1	7	2	1	2	4	5	1	3	5	5	3	6	5	2	5	1	3
57	7	7	3	4	7	5	7	7	7	7	6	4	3	5	7	4	7	3	4	6	6	7	5	5	6	6	4	6	5	5
58	4	6	3	2	2	2	2	5	7	6	5	6	3	7	3	4	6	1	5	4	3	7	5	7	3	7	3	6	3	5
59	5	2	0	1	6	3	5	5	6	3	5	2	2	4	5	4	1	3	1	1	5	6	5	4	6	2	1	6	5	7
60	4	5	2	5	6	4	5	3	4	4	3	5	1	4	3	4	2	2	5	4	5	5	4	2	5	3	1	5	5	2
61	3	2	-1	2	4	1	7	2	2	5	4	3	3	6	5	4	2	2	5	1	3	4	6	3	4	3	5	7	0	3
62	2	1	6	4	3	0	3	5	0	4	4	7	6	3	5	2	0	2	1	3	1	6	6	0	-1	5	4	5	1	2
63	4	3	-1	3	6	4	3	2	5	6	2	2	1	6	3	6	3	0	6	1	5	5	4	2	7	4	0	7	5	2
64	2	4	5	4	3	2	2	1	2	6	2	3	1	4	6	2	1	1	0	2	4	7	3	3	2	6	4	4	-1	5
65	4	3	5	3	5	4	3	4	5	4	3	5	2	5	4	3	2	1	6	4	6	6	5	1	4	5	3	6	2	2
66	4	5	5	6	7	6	6	6	7	7	6	7	5	7	6	7	5	6	7	6	7	7	7	7	7	6	6	7	6	6
67	5	2	-1	4	6	6	5	4	6	7	3	4	5	7	5	7	0	3	6	7	5	6	6	5	4	7	-1	6	5	5
68	4	4	2	1	5	4	3	5	5	6	3	-1	3	6	5	6	6	3	3	5	4	6	5	7	6	5	3	4	5	6
69	6	6	-1	5	7	4	3	4	6	7	6	6	2	5	3	4	1	4	3	5	5	6	6	3	5	6	3	6	4	3
70	6	5	2	4	6	5	5	4	6	7	3	-1	3	7	3	3	4	3	2	4	5	6	4	5	5	4	0	5	3	6
71	2	3	2	3	4	2	2	3	4	7	2	5	3	6	2	5	3	2	5	3	4	4	2	2	5	6	1	2	3	2
72	6	4	-1	2	5	3	3	2	4	6	3	3	1	5	3	5	3	3	6	4	4	6	3	3	5	7	1	3	3	3
73	2	4	2	5	4	3	3	2	5	5	3	6	4	5	3	4	2	1	3	3	5	7	5	-1	3	7	2	6	3	4
74	2	5	2	3	4	4	6	2	3	7	5	4	1	7	1	5	-1	0	0	5	4	6	3	4	6	4	3	5	1	3
75	4	6	3	2	5	7	2	1	3	7	4	5	3	6	5	5	3	2	2	5	4	6	3	3	3	6	2	6	1	3
76	0	-1	7	6	5	1	3	0	6	2	3	4	0	1	5	2	-1	1	-1	7	1	1	6	-1	1	2	7	6	-1	1

no	V1	V2	V3	V4	V5	V6	V7	V8	V9	V10	V11	V12	V13	V14	V15	V16	V17	V18	V19	V20	V21	V22	V23	V24	V25	V26	V27	V28	V29	V30
77	6	5	-1	4	6	4	4	3	6	7	5	3	4	6	3	5	3	2	4	2	5	5	2	3	5	5	1	6	2	6
78	1	2	4	2	5	3	3	2	4	7	6	6	1	3	4	2	1	1	5	3	4	6	6	-1	5	5	4	6	0	1
79	0	7	-1	2	5	2	5	5	5	3	5	6	6	4	4	4	5	5	4	7	2	5	4	5	3	5	3	3	3	3
80	2	3	0	1	3	3	4	3	2	7	5	3	3	5	6	5	4	3	5	5	3	5	4	3	6	6	4	5	4	4
81	3	5	1	3	7	4	1	0	5	6	4	2	2	7	2	5	1	3	6	3	4	5	2	6	5	6	2	5	3	4
82	3	5	4	3	5	3	4	4	5	5	6	7	1	6	5	6	1	0	6	7	4	5	4	1	6	7	4	5	6	4
83	3	5	3	4	5	4	4	5	4	6	6	5	3	4	4	5	4	5	7	6	5	7	5	5	4	6	1	3	5	3
84	5	7	3	3	5	6	6	5	5	5	3	5	3	7	6	5	2	2	5	5	5	3	6	2	3	5	3	6	5	3

Table 11.39: Raw Data SVS – Korea (part 2)

no	V31	V32	V33	V34	V35	V36	V37	V38	V39	V40	V41	V42	V43	V44	V45	V46	V47	V48	V49	V50	V51	V52	V53	V54	V55	V56	V57
1	5	4	5	7	5	3	7	5	6	6	6	7	7	5	5	3	2	5	6	5	4	4	7	5	7	4	4
2	7	3	7	6	6	3	6	-1	3	6	6	7	6	-1	7	0	0	3	3	7	7	6	0	6	7	0	-1
3	3	-1	3	3	2	1	5	3	3	1		6	6	0	3	1	1	3	3		2	3	6	3	6	3	3
4	5	5	6	5	3	6	0	1	7	5	3	6	6	5	6	3	3	4	1	4	6	6	4	4	6	6	2
5	5	6	6	2	6	7	1	3	1	3	6	7	4	7	7	1	5	6	4	5	0	5	4	6	6	4	1
6	1	4	4	3	4	2	3	0	5	4	6	6	5	3	6	4	2	5	5	4	-1	7	2	3	5	2	3
7	4	5	5	5	4	5	6	0	5	6	7	6	6	5	4	4	4	6	4	5	1	4	6	4	6	5	3
8	2	5	7	1	7	6	1	3	2	7	5	7	4	2	6	5	3	3	5	6	0	6	1	5	4	3	0
9	3	5	5	3	4	5	1	2	2	5	4	3	3	5	7	0	3	4	2	3	5	6	5	5	4	3	-1
10	5	3	4	4	2	4	6	4	3	1	5	7	6	2	3	2	1	5	6	7	-1	5	6	2	4	4	3
11	4	2	4	3	3	4	4	3	4	5	5	5	6	4	5	4	2	5	4	7	0	5	4	4	5	3	2
12	3	3	4	4	2	4	4	1	3	6	4	6	5	3	4	4	2	3	1	2	0	3	4	2	7	4	2
13	3	1	4	1	3	3	6	5	2	3	5	7	6	2	5	3	2	4	5	4	0	3	4	4	5	4	0
14	7	4	5	3	4	5	2	3	4	4	3	6	3	2	6	2	3	5	3	1	-1	5	3	5	4	3	1
15	3	5	4	1	3	4	-1	2	5	3	5	4	7	3	4	4	2	5	2	2	0	4	3	3	3	4	1
16	6	2	2	5	5	3	4	2	1	1	5	4	6	-1	5	0	1	7	2	3	-1	5	7	3	5	5	0
17	7	0	5	4	3	4	3	1	6	4	6	4	7	1	5	3	2	5	2	6	-1	5	3	1	5	2	0
18	3	1	2	4	1	4	6	3	7	3	4	6	5	0	2	3	0	2	2	5	-1	6	3	1	5	4	0
19	2	5	5	2	6	5	1	5	6	5	5	7	4	3	5	0	6	4	7	-1	1	6	3	0	5	3	1
20																											
21	2	5	5	1	3	4	1	1	2	6	4	6	5	2	2	1	6	3	3	5	0	7	2	4	3	2	1
22	4	4	5	3	5	4	4	3	2	4	6	5	4	1	3	2	2	4	3	5	3	4	5	4	5	3	5
23	1	1	6	0	7	2	1	7	5	5	4	7	7	0	0	7	2	6	6	7	7	4	7	-1	2	0	7
24	6	-1	5	7	1	-1	6	2	3	3	5	4	6	5	-1	0	1	4	0	3	-1	4	3	1	7	0	2
25	3	5	5	5	4	4	2	4	5	5	5	4	5	5	4	3	4	6	5	3	1	6	4	4	7	4	2

no	V31	V32	V33	V34	V35	V36	V37	V38	V39	V40	V41	V42	V43	V44	V45	V46	V47	V48	V49	V50	V51	V52	V53	V54	V55	V56	V57
26	5	3	5	2	3	3	3	2	4	3	7	7	6	4	7	2	3	7	7	2	1	4	5	5	6	5	1
27	6	1	4	5	5	4	4	5	6	4	7	6	6	3	3	4	3	4	2	5	-1	5	6	1	6	5	4
28	1	3	4	3	3	4	5	1	2	3	7	5	5	0	4	3	2	3	4	6	-1	5	6	4	4	3	-1
29	7	5	6	6	6	3	5	2	5	6	6	5	7	-1	6	6	0	4	4	7	-1	6	6	4	4	4	0
30	3	6	6	2	5	4	3	5	5	2	6	5	3	2	7	2	4	6	6	1	1	7	7	5	2	2	-1
31	4	1	4	3	3	3	4	3	3	3	6	7	6	2	4	3	4	3	3	5	0	3	4	2	4	3	3
32	3	6	6	2	4	4	6	3	3	4	4	7	6	4	3	5	3	4	3	5	2	4	3	3	5	3	2
33	1	2	6	3	4	5	2	5	3	6	3	6	3	4	5	4	2	4	4	6	4	5	3	2	4	3	-1
34	7	5	7	5	6	7	6	5	5	7	7	7	6	7	6	7	5	7	5	5	5	7	7	6	7	7	5
35	3	6	5	1	7	2	1	0	3	5	3	4	5	1	3	6	4	2	5	6	-1	5	2	5	3	4	-1
36	4	6	4	6	6	3	6	2	5	3	4	7	6	1	4	4	1	6	2	6	3	4	6	5	6	3	2
37	5	3	4	6	4	4	2	3	5	4	6	6	6	4	5	3	3	4	3	4	0	4	5	4	7	6	-1
38	0	3	4	4	6	5	4	2	3	6	7	6	5	3	4	2	3	3	1	6	-1	5	4	5	6	4	5
39	3	4	4	2	4	5	2	3	3	5	4	7	5	5	4	5	2	3	3	4	1	4	4	2	6	3	2
40	3	2	5	4	4	7	5	6	2	7	5	7	6	3	7	2	6	5	6	3	5	6	6	6	5	5	0
41	6	5	6	5	5	4	5	5	4	6	7	7	4	5	6	2	2	3	3	3	2	5	4	5	5	6	3
42	4	3	5	4	4	5	2	4	4	4	5	6	4	3	3	4	3	3	3	5	2	5	3	2	6	4	1
43	6	3	4	5	6	6	6	3	5	6	7	7	6	5	3	3	3	5	7	7	0	5	5	4	7	6	5
44	1	2	5	5	4	4	3	1	4	3	1	6	5	3	3	1	2	3	1	5	1	5	2	1	3	1	0
45	3	6	3	2	4	3	3	2	4	3	4	5	5	5	5	2	5	5	5	7	0	6	3	5	6	5	2
46	3	7	7	4	4	6	5	3	5	6	7	7	3	3	5	3	3	5	6	6	2	6	5	5	6	6	3
47	6	5	5	6	6	6	7	4	4	4	5	7	6	4	3	3	5	5	3	4	4	3	3	5	7	4	0
48	6	3	6	7	4	3	3	5	7	6	6	6	6	3	5	6	-1	6	6	7	-1	6	3	3	7	6	2
49	5	4	5	4	4	5	3	3	4	4	4	6	6	5	5	4	4	4	5	5	2	6	5	5	7	4	-1
50	4	2	5	6	5	4	4	3	4	5	6	6	5	0	6	1	1	3	4	6	1	5	6	5	7	3	5
51	5	6	6	2	5	7	-1	2	2	5	4	7	4	5	7	1	3	2	6	4	7	6	2	5	1	3	1
52	5	5	6	3	6	6	2	2	3	3	3	2	5	2	7	3	4	5	3	3	5	6	5	6	4	4	1
53	3	2	3	5	4	2	3	1	4	2	6	6	5	3	3	2	-1	0	1	3	-1	4	1	2	7	4	0
54	2	3	5	6	3	2	0	1	7	5	4	6	7	4	4	3	5	6	0	6	2	4	1	0	6	5	-1
55	4	3	2	2	3	5	-1	2	3	5	6	6	4	3	4	4	5	5	3	5	1	5	3	4	7	5	4
56	6	6	5	2	5	1	3	2	4	2	7	5	4	3	5	0	1	3	4	5	-1	5	6	4	5	2	-1
57	4	4	7	5	7	5	6	6	6	6	7	7	6	-1	3	3	-1	6	4	7	-1	7	7	5	6	5	-1
58	5	7	5	2	7	3	-1	5	2	4	4	7	3	5	6	4	5	3	3	3	-1	6	2	5	2	4	5
59	2	3	4	1	6	4	2	2	5	5	3	5	4	2	3	1	4	3	5	2	1	4	6	2	7		0
60	5	5	3	4	3	3	3	2	1	3	3	6	4	3	3	1	2	4	3	6	1	3	4	4	5	3	5
61	1	3	7	4	5	3	2	1	3	5	4	6	5	5	4	2	2	4	5	3	-1	6	2	4	3	4	0
62	5	2	1	5	1	6	-1	0	6	4	6	3	6	3	1	4	5	4	0	4	0	3	2	1	7	3	2
63	3	5	6	2	5	2	5	3	3	4	7	6	7	2	3	3	-1	6	2	7	-1	6	4	2	3	2	4

no	V31	V32	V33	V34	V35	V36	V37	V38	V39	V40	V41	V42	V43	V44	V45	V46	V47	V48	V49	V50	V51	V52	V53	V54	V55	V56	V57
64	5	2	4	6	2	3	2	3	5	4	6	6	7	5	2	1	1	4	4	3	-1	5	3	1	7	5	2
65	4	3	3	2	3	2	4	2	3	4	5	6	5	1	6	3	2	5	3	5	0	5	4	3	5	3	3
66	7	7	7	7	7	7	7	7	7	7	7	7	7	4	7	4	3	6	7	7	6	7	7	7	7	7	3
67	6	7	6	4	5	2	1	4	3	4	6	7	6	0	7	-1	3	7	6	5	0	4	6	5	7	3	5
68	4	3	3	6	5	4	5	7	4	3	6	6	6	5	4	4	5	5	5	4	3	5	4	3	6	4	-1
69	2	3	5	6	6	4	5	3	5	5	6	6	4	3	3	4	2	5	3	5	1	5	5	4	7		-1
70	4	3	4	2	4	3	2	3	5	4	5	3	4	1	6	2	3	3	4	4	0	5	1	4	2	3	-1
71	4	4	2	2	4	3	3	2	3	2	4	6	5	2	2	3	1	5	2	7	1	2	5	2	4	2	1
72	7	3	3	3	3	3	5	3	3	4	5	6	4	2	5	2	4	4	3	5	-1	6	5	5	3	2	1
73	3	4	6	4	6	5	4	3	3	3	4	5	5	3	5	2	2	5	3	7	-1	5	3	4	4	2	5
74	4	3	5	5	4	3	6	5	6	2	6	1	4	1	5	0	1	2	4	5	-1	6	3	2	7	2	1
75	5	2	4	3	4	6	3	4	3	6	5	7	3	5	6	3	3	3	3	4	0	6	3	5	6	5	-1
76	7	6	6	4	3	2	1	1	6	2	4	3	7	-1	1	5	-1	6	0	3	-1	5	1	2	7	5	0
77	6	3	5	4	6	5	4	3	3	4	7	6	4	1	6	2	2	3	4	4	0	6	5	5	5	3	4
78	4	2	6	4	3	4	4	1	5	6	5	6	7	2	3	2	1	5	2	3	0	5	4	3	6	3	-1
79	4	4	5	4	2	3	2	4	5	4	5	6	6	1	5	3	0	7	4	5	-1	5	5	2	6	6	6
80	4	3	5	4	5	3	2	3	4	5	7	6	5	0	5	5	4	5	4	3	-1	6	3	6	5	4	2
81	2	3	4	4	6	1	6	6	2	3	5	6	6	3	4	0	0	5	1	7	-1	7	7	2	5	3	2
82	6	5	4	6	3	5	5	1	7	4	6	5	7	5	4	4	4	5	3	5	1	6	4	2	7	5	1
83	5	3	3	4	5	5	4	4	5	6	7	6	5	4	5	5	4	5	5	6	4	6	5	6	7	5	6
84	5	3	5	2	3	3	3	2	4	3	7	7	6	4	7	2	3	7	7	2	1	4	5	5	6	5	1

Table 11.40: Centred Scores SVS – Korea

no.	Conformity	Tradition	Benevolence	Universalism	Self-Direction	Stimulation	Hedonism	Achievement	Power	Security
1	-0,193	-1,593	-0,193	0,057	1,207	1,474	-0,526	1,557	-0,693	-0,993
2	-0,531	-1,881	1,519	-2,031	0,919	0,719	-0,281	1,219	0,469	0,319
3	-1,350	-3,000	-0,600	0,525	1,650	0,733	-0,600	0,900	-1,350	-0,200
4	-0,373	0,077	0,477	-2,123	-0,723	-1,456	-0,123	1,877	0,877	-0,323
5	-0,882	0,568	1,968	-0,382	1,368	-0,298	-0,632	-0,382	-2,632	-1,232
6	0,333	-1,467	1,333	-1,667	-0,267	-2,000	0,333	0,833	0,583	0,133
7	-0,149	-0,849	-0,449	-1,024	0,951	1,018	-0,649	0,851	0,351	-0,649
8	1,057	-0,993	1,607	0,057	-0,793	-1,526	-0,860	-1,443	-0,693	-0,193
9	0,191	1,091	1,691	-0,809	0,691	-0,976	-1,642	-0,309	-1,809	0,291
10	-1,469	-2,319	0,281	0,156	1,081	0,281	1,281	0,531	-1,969	0,481
11	-0,645	-1,295	0,505	-0,145	0,705	0,439	-0,228	0,605	-1,645	-0,095
12	1,276	-1,474	-0,674	-1,849	0,126	-0,474	-0,474	1,276	1,026	0,326
13	-1,351	-1,751	0,849	0,274	1,449	1,982	-0,684	0,149	-2,601	-0,751
14	0,154	-1,796	1,204	0,404	1,404	-1,263	-2,596	-0,096	-2,346	0,204
15	-0,303	-0,453	0,347	-0,428	-0,253	-2,386	-1,386	0,947	-0,053	1,147
16	-1,632	-2,832	-0,232	0,368	2,568	1,368	-0,965	0,618	-1,882	0,368
17	0,167	-2,533	0,267	-0,708	1,467	1,667	-1,000	2,167	-1,833	0,667
18	-1,750	-2,400	-0,400	-1,750	0,400	2,667	0,667	2,250	1,000	-0,800
19	1,601	-0,249	0,951	1,601	0,151	-2,649	-2,982	0,601	-3,649	-0,249
20										
21	1,610	-0,740	1,060	-1,140	-0,740	-1,140	0,193	-0,390	-1,890	0,460
22	-0,539	-0,589	0,011	-0,164	1,211	0,544	0,877	-0,289	-1,539	-0,389
23	-1,816	-0,916	-1,316	0,309	-0,116	-0,982	1,351	-0,816	1,184	-0,516
24	-1,412	-2,112	-1,112	-1,912	1,288	0,421	0,754	2,838	0,338	-0,912
25	0,452	-0,298	0,502	-0,048	-0,298	0,368	-1,632	1,202	-1,298	-0,298
26	-0,816	-1,716	1,284	-0,941	1,084	-0,649	-2,316	0,184	-1,066	0,084
27	-0,877	-1,477	-0,877	-1,127	2,323	-0,877	0,789	1,873	-0,377	0,123
28	-0,083	-1,533	0,867	-1,208	1,467	2,667	-0,667	0,167	-1,833	0,067
29	-0,039	-2,989	0,411	-1,539	1,811	0,544	-0,123	0,711	0,711	0,011
30	-0,039	-0,789	2,411	0,336	1,811	0,544	-3,456	-0,789	-2,789	0,411
31	-0,044	-1,944	-0,344	-0,669	1,056	1,456	0,789	0,456	-0,794	0,256
32	-0,039	-0,389	0,011	-0,914	0,411	-0,123	0,211	0,211	-0,789	-0,189
33	0,228	-0,572	0,628	-0,647	-1,172	-0,105	-0,105	-0,522	-0,272	0,828
34	0,570	-0,330	0,270	-0,680	1,070	-0,263	-1,263	-0,180	-0,930	-0,130
35	0,706	-0,944	1,056	-0,669	-0,144	0,456	-1,211	-0,544	-1,794	0,256
36	-1,605	-1,705	-0,305	-0,480	0,495	2,228	0,561	1,645	-0,605	-1,105
37	0,829	-1,221	-0,621	-1,171	0,979	0,912	-1,421	2,329	0,329	-0,421
38	0,746	-0,554	0,246	-0,379	0,646	-0,754	0,579	0,496	-1,254	0,046
39	0,197	-1,653	-0,053	-0,303	1,347	-1,053	-2,719	1,947	-0,303	-0,053
40	0,601	-1,049	0,151	-0,774	0,151	1,351	1,684	0,851	-2,149	-0,649
41	0,009	0,109	-0,091	-0,491	0,309	-1,158	-0,825	0,509	-1,241	-0,291
42	1,601	-0,649	1,351	0,226	0,151	-0,316	-2,649	-0,399	-1,649	0,951
43	-0,066	-0,516	0,684	-0,316	1,084	0,351	-0,982	0,184	-0,566	0,484
44	-0,197	-0,747	-0,347	-0,447	0,253	0,386	-0,614	0,553	0,303	0,053
45	0,171	-1,779	0,021	-1,454	1,621	0,088	0,754	1,171	-0,579	0,621
46	-0,214	-0,514	0,286	-0,964	-0,714	0,286	-0,048	1,536	-0,714	-0,464
47	0,390	-0,860	0,940	-1,485	0,340	-0,193	0,474	0,390	-1,110	0,340
48	0,570	-0,530	0,870	-0,555	0,070	0,737	-0,596	-0,430	-1,930	0,070
49	-0,053	-0,053	-0,253	-0,678	0,147	1,614	-1,386	1,697	0,947	-0,453
50	-1,039	-2,789	0,411	-1,289	0,211	-0,456	0,211	1,961	1,461	0,811

no.	Conformity	Tradition	Benevolence	Universalism	Self-Direction	Stimulation	Hedonism	Achievement	Power	Security
51	-0,355	-0,505	1,095	-0,105	0,095	-0,439	-2,105	1,145	-2,355	-0,305
52	-1,338	-2,288	0,912	-1,088	1,712	0,579	1,246	1,412	-0,588	0,312
53	1,035	1,835	2,035	-0,965	-0,365	-3,965	-1,298	-1,715	-2,465	0,035
54	-0,232	0,018	1,618	0,518	0,418	-0,982	-1,982	-0,232	-2,482	0,218
55	-1,715	-1,365	-0,365	-1,215	1,035	2,035	-0,632	2,285	0,035	1,635
56	0,316	-1,284	-1,084	-1,934	-0,884	-2,018	-1,018	2,816	1,566	0,716
57	-0,228	-0,828	0,372	-1,353	0,972	-2,228	1,105	0,772	-0,728	-0,228
58	-1,776	-0,926	1,074	-0,401	1,874	1,140	-1,193	0,224	-2,276	-0,526
59	-0,838	-3,088	0,112	0,912	0,712	1,246	-1,754	0,662	-1,588	0,712
60	0,342	-1,158	0,842	1,342	-0,758	-1,158	-0,825	-1,908	-0,158	0,242
61	0,232	-0,918	0,082	0,482	0,682	1,149	-2,518	0,732	-2,518	0,982
62	-0,579	-0,779	-0,379	-0,704	0,821	0,421	1,754	-0,079	-1,329	-0,579
63	-0,368	-0,968	1,832	-0,868	-0,368	-0,702	-1,702	0,382	-1,118	0,232
64	0,965	-0,435	-1,835	-1,660	0,565	-3,702	0,298	2,965	2,215	1,965
65	-2,114	-2,014	0,186	-0,114	1,586	2,053	1,053	0,136	-2,614	-1,014
66	-1,031	-1,281	-0,081	-0,656	0,519	-1,281	-0,281	2,969	-0,031	0,719
67	-0,417	-2,267	0,333	-1,042	0,533	0,667	0,000	0,083	0,333	0,133
68	-0,816	-0,316	0,684	-0,316	0,684	0,684	-0,982	0,684	-0,816	-0,116
69	-0,259	-2,109	1,091	-0,009	1,691	-0,842	0,158	0,491	-4,259	0,091
70	-0,333	-0,733	-0,333	1,292	0,667	1,000	-3,000	1,167	-2,333	0,267
71	0,232	-1,268	-0,268	-0,268	0,532	1,065	-1,268	1,232	-1,268	-0,518
72	-0,132	-1,632	0,968	0,743	0,168	0,702	-1,298	-0,382	-2,882	0,168
73	-1,193	-0,793	-1,193	-0,193	1,207	0,807	0,474	0,307	-0,443	-0,393
74	0,136	-1,614	0,786	0,261	1,786	1,053	-0,947	-0,364	-2,364	-0,814
75	-1,004	-1,354	0,846	-0,504	-0,154	0,246	1,912	0,246	-0,754	-0,154
76	-0,189	-2,239	0,961	-0,689	0,961	1,561	-0,439	2,061	-1,189	-1,039
77	0,588	-0,912	0,888	-0,412	0,688	-0,912	-2,246	-0,162	-0,662	0,088
78	-0,004	-1,354	0,046	-2,254	1,046	-0,088	0,246	3,246	2,996	-0,554
79	-0,803	-1,853	1,147	0,197	1,747	0,947	-0,053	-0,053	-2,803	-0,453
80	0,561	-1,639	0,361	-2,064	0,561	0,895	-2,105	2,061	0,561	-0,239
81	0,018	-1,582	0,218	-0,607	0,618	-0,649	0,351	1,268	-1,232	1,218
82	0,838	-2,312	1,288	-0,037	0,488	-0,579	-1,912	0,588	-0,912	0,288
83	-1,202	-1,902	-0,102	0,673	1,498	1,632	0,298	0,548	-2,452	-1,302
84	-0,816	-1,716	1,284	-0,941	1,084	-0,649	-2,316	0,184	-1,066	0,084

Table 11.41: Demography Participants – Germany

no	age	gender	major	graduate/ undergraduate	method
1	21	male	none	u	focus group
2	24	male	industrial engineering	u	focus group
3	21	male	industrial engineering	u	focus group
4	25	male	industrial engineering	u	focus group
5		male	industrial engineering	u	focus group
6	26	male	industrial engineering	u	anecdote circle
7	24	male	industrial engineering	u	anecdote circle
8	24	female	mechanical engineering	u	anecdote circle
9	23	female	industrial engineering	u	anecdote circle
10	22	male	industrial engineering	u	anecdote circle
16	24	male	industrial engineering	g	inspiration card workshop
17	24	male	none	u	inspiration card workshop
18		male	none		inspiration card workshop
19		male	none		inspiration card workshop
20		male	none		inspiration card workshop
21		male	none		interview
22		female	none		inspiration card workshop
23		male	none		inspiration card workshop
24	24	female	none	u	inspiration card workshop
25	23	male	none	u	inspiration card workshop
26	24	male	none	u	anecdote circle
27	24	female	industrial engineering	u	anecdote circle
28	22	male	construction & environmental engineering	u	anecdote circle
29	21	male	industrial engineering	u	anecdote circle
30	22	male	industrial engineering	u	anecdote circle
31	23	female	industrial engineering	u	anecdote circle
32	22	male	industrial engineering	u	anecdote circle
33	25	male	industrial engineering	u	anecdote circle
34	22	female	industrial engineering	u	interview
35	24	male	none	u	inspiration card workshop
36		male	none		inspiration card workshop
37	22	male	none	u	inspiration card workshop
38	22	male	none	u	inspiration card workshop
39	22	female	none	u	inspiration card workshop
40		male	none		inspiration card workshop
41	24	male	none	g	inspiration card workshop
42	23	male	none	u	inspiration card workshop
43		female	none		interview
44	23	male	none	u	focus group
45	22	male	computer science	u	focus group
46	25	male	industrial engineering	u	focus group
47	23	female	industrial engineering	u	focus group
48	23	male	industrial engineering	u	focus group
49	20	female	industrial engineering	u	focus group
50	20	male	bio & brain engineering	u	focus group
51	26	male	industrial engineering	u	focus group
52	22	male	industrial engineering	u	focus group
76	23	female	physics	u	anecdote circle
77	24	male	industrial engineering	u	anecdote circle
78	27	male	industrial engineering	u	anecdote circle
79	25	female	industrial engineering	u	anecdote circle
80	21	female	industrial engineering	u	anecdote circle

no	age	gender	major	graduate/ undergraduate	method
81	23	male	industrial engineering	u	anecdote circle
82	25	male	industrial engineering	u	interview
83	30	male	none	u	interview
84		male	none		interview
85		male	none		interview
86		male	none		interview
87		female	none		interview
88		male	none		interview
89		male	none		puzzle interview
90	22	female	industrial engineering	u	puzzle interview
91	21	male	construction & environmental engineering	u	puzzle interview
92	23	male	industrial engineering	u	puzzle interview
93	25	male	industrial engineering	u	puzzle interview
94	21	male	mathematics	u	puzzle interview
95	26	female	industrial engineering	u	puzzle interview
96	22	male	industrial engineering	u	puzzle interview
97	24	female	industrial engineering	u	puzzle interview
98	24	female	industrial engineering	u	puzzle interview
99	21	female	industrial engineering	u	focus group
100	27	male	mechanical engineering	p	focus group
101	27	female	industrial engineering	u	focus group
102	28	male	chemistry	g	focus group
103	25	male	industrial engineering	u	focus group

Table 11.42: Raw Data NEO-FFI – Germany (part 1)

no	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
1	3	3	2	3	1	2	3	3	2	2	1	2	3	3	3	2	3	3	2	3	3	2	3	2	3	1	3	2	3	2
2	2	3	1	3	0	0	4	2	3	2	0	2	2	2	1	0	4	3	2	4	0	2	1	2	2	0	2	3	1	2
3	1	2	1	3	2	2	1	3	3	0	2	3	0	4	2	1	3	2	3	4	2	2	2	3	1	2	2	0	1	0
4	3	2	1	3	4	1	3	1	4	4	1	3	3	3	4	4	2	1	3	3	1	1	1	2	3	0	1	3	2	1
5	0	4	0	4	4	2	3	1	2	3	1	4	1	1	3	0	4	3	1	3	1	4	1	1	3	1	2	3	0	3
6	3	3	1	4	3	1	4	1	4	3	2	4	3	3	3	0	3	3	2	4	1	2	2	3	3	1	3	2	2	3
7	1	3	3	3	3	2	3	2	3	2	3	3	2	3	1	2	3	2	3	3	2	2	2	3	3	1	2	2	3	2
8	0	3	2	4	3	1	3	2	4	3	3	1	3	2	3	1	4	2	2	4	2	2	1	1	3	2	3	3	2	3
9	2	2	0	2	3	2	2	0	3	2	4	2	2	2	1	1	3	2	4	3	2	3	1	2	3	2	2	3	1	1
10	1	3	1	3	2	1	3	2	3	1	2	3	2	1	2	1	3	1	3	3	2	2	2	1	2	1	3	1	3	1
16	2	1	2	4	2	3	4	4	3	1	3	1	1	4	2	2	3	3	3	4	2	4	0	2	0	3	0	1	0	0
17	4	1	1	3	2	1	3	1	4	2	2	2	2	4	1	0	4	2	3	3	1	2	0	2	3	0	1	1	2	1
18	3	3	3	0	3	2	3	4	3	1	1	3	2	3	3	2	3	3	2	3	1	2	3	2	2	1	2	2	3	1
19	1	1	1	2	2	1	3	0	3	2	3	3	1	1	3	1	1	2	3	3	1	2	3	1	3	1	1	1	3	3
20	0	2	3	4	3	2	4	3	4	3	0	4	1	3	1	2	2	2	3	4	2	3	1	3	3	2	3	1	3	1
21	3	3	3	3	3	2	3	4	3	1	1	3	2	3	3	2	3	3	2	3	1	2	3	2	2	1	2	2	3	1
22	2	3	3	4	4	1	3	3	4	4	1	4	2	2	3	3	2	2	2	3	3	3	2	0	3	2	1	3	1	2
23	1	2	0	2	4	0	3	2	4	4	1	4	0	4	4	1	3	2	4	4	2	2	0	2	3	0	2	2	4	4
24	1	4	2	3	3	1	3	2	3	3	1	4	2	3	4	1	4	3	4	3	1	2	2	3	2	0	3	2	4	3
25	3	2	3	4	3	1	3	2	3	2	0	3	2	3	3	1	3	3	3	3	1	1	1	2	2	0	3	2	1	1
26	1	0	2	1	3	1	2	4	3	1	1	3	3	1	2	3	2	2	1	4	1	3	1	1	2	3	0	2	4	0
27	1	3	2	3	2	1	3	1	3	0	1	3	3	3	1	1	3	2	2	3	1	1	3	3	1	0	1	3	1	1
28	0	3	2	3	1	0	2	4	4	4	0	2	1	2	4	1	4	4	2	3	0	1	2	1	3	0	2	2	3	3
29	1	3	1	3	2	1	2	3	2	1	2	3	2	2	3	1	3	4	2	2	1	3	3	2	1	0	2	4	2	0
30	3	2	1	3	2	2	3	1	3	3	3	3	0	2	3	2	3	0	3	2	2	1	1	2	3	2	1	1	1	2
31	3	2	2	3	2	1	3	2	3	3	2	3	1	3	1	1	3	2	3	3	2	1	1	1	3	0	3	1	2	2
32	2	1	1	1	3	1	2	3	3	3	1	3	0	2	4	2	2	2	1	3	2	2	1	2	3	2	1	3	1	3
33	4	3	3	3	1	2	4	2	3	2	1	3	3	2	3	2	3	1	3	2	1	2	3	2	2	2	1	2	3	2
34	3	2	0	4	3	1	4	3	3	3	3	3	2	1	4	2	4	4	2	3	3	3	1	2	4	1	3	3	1	2
35	3	3	3	3	3	2	3	4	3	1	1	3	2	3	0	2	3	3	2	3	1	2	3	2	2	1	2	2	3	1
36	2	2	1	3	3	1	3	3	3	2	0	3	2	2	3	1	3	3	2	0	3	1	2	2	2	1	1	3	2	1
37	3	1	2	4	4	3	1	4	2	1	4	3	3	2	3	3	2	3	4	4	4	0	3	2	2	2	2	0	0	0
38	2	2	2	3	2	1	3	3	3	3	1	4	2	3	3	2	2	3	3	3	2	1	2	3	3	1	3	2	3	2
39	0	4	3	4	2	1	4	4	3	4	1	4	3	2	3	1	4	4	3	4	3	4	1	4	0	4	1	1	0	4
40	2	3	2	2	3	1	2	3	3	3	1	3	3	2	2	1	4	2	3	2	1	2	3	1	3	1	3	3	1	2
41	1	2	1	4	2	2	3	2	3	2	1	2	1	2	3	1	3	2	2	2	1	1	1	1	1	1	3	1	3	2
42	0	4	3	4	2	1	4	4	3	4	1	4	3	2	3	1	4	4	3	4	3	4	4	4	4	3	3	4	4	4
43	2	2	3	3	3	1	3	3	3	3	1	3	2	3	3	1	3	2	3	3	2	1	3	2	3	1	2	2	1	3
44	2	3	1	3	3	1	3	3	2	3	2	3	3	1	4	1	3	3	2	4	2	3	1	1	3	1	2	2	3	4
45	0	3	1	3	2	0	2	1	4	2	1	3	2	2	3	0	3	2	3	4	0	2	1	2	2	1	3	3	3	2
46	0	3	2	4	2	1	3	2	4	1	0	4	0	4	3	0	4	3	4	2	0	3	2	4	1	0	4	2	3	4
47	3	3	0	3	3	2	3	3	3	2	3	3	3	1	3	2	3	2	4	3	3	2	3	3	3	1	3	3	1	1
48	1	3	2	3	3	0	4	3	3	1	3	4	4	3	3	2	4	3	3	4	1	2	3	2	3	0	3	4	3	0
49	2	4	2	4	3	1	4	3	3	2	3	3	4	3	2	1	4	3	3	4	1	2	2	3	3	1	3	3	2	3
50	2	4	1	4	3	1	3	1	3	3	2	4	1	3	3	4	3	2	3	4	2	3	1	2	3	0	2	3	2	2
51	2	2	2	1	2	2	2	3	3	1	2	2	1	2	3	2	3	2	3	3	2	1	1	2	2	1	3	3	2	2
52	2	3	3	3	1	1	3	3	3	2	1	3	2	3	4	1	3	3	3	3	1	3	3	3	1	0	3	3	3	1
76	1	3	1	3	4	1	3	3	4	3	2	1	2	4	1	2	3	2	3	4	3	3	1	2	3	1	3	4	1	1
77	1	1	2	3	2	1	3	3	4	3	1	1	2	1	3	1	3	2	3	3	1	1	2	1	2	0	2	1	1	1

no	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
78	1	2	2	3	2	2	2	3	3	2	3	2	2	3	2	2	2	1	3	3	3	1	2	1	2	2	1	3	2	3
79	2	4	2	3	2	2	4	2	2	2	3	4	2	3	3	2	4	2	4	3	2	3	3	3	2	1	2	4	2	2
80	3	3	2	3	2	1	4	1	2	1	1	3	2	3	3	2	3	3	3	2	1	2	2	3	3	1	3	4	1	1
81	2	3	1	3	3	0	4	4	3	3	1	4	1	3	4	3	2	2	3	3	1	2	4	2	3	0	3	3	0	2
82	0	4	3	4	0	0	4	4	4	0	0	4	2	3	3	0	4	4	4	3	0	2	3	4	0	0	0	4	2	2
83	1	2	3	3	1	1	2	3	4	1	1	3	3	2	2	1	3	2	3	1	1	2	3	3	1	0	3	2	3	2
84	3	3	1	4	3	1	3	2	4	4	1	3	2	4	1	4	2	2	2	3	1	1	1	3	3	0	3	4	1	3
85	1	2	0	2	4	0	3	2	4	4	1	4	0	4	4	1	3	2	4	4	2	2	0	2	3	0	2	2	4	4
86	0	2	3	3	3	1	1	3	3	2	1	3	2	4	3	2	2	3	4	3	2	1	2	2	2	3	2	1	2	1
87	3	3	3	3	2	2	4	1	2	1	3	4	2	3	2	3	3	4	1	3	3	1	1	1	1	2	3	0	3	0
88	2	4	3	3	1	2	2	4	1	3	1	4	3	2	1	3	4	2	3	2	3	2	1	2	1	0	2	1	3	2
89	1	3	1	3	3	1	2	1	3	2	2	3	2	2	3	1	3	1	3	4	2	2	1	2	3	1	3	1	2	2
90	1	3	2	3	3	2	3	3	1	3	1	3	2	1	3	1	4	1	2	3	2	2	1	2	3	1	1	1	1	3
91	1	2	0	3	3	1	2	2	4	4	0	4	2	2	3	1	2	2	4	3	1	4	0	2	4	1	2	2	2	3
92	1	3	1	4	3	1	3	2	3	3	3	3	2	3	3	1	4	3	3	3	1	3	2	3	2	1	3	2	2	1
93	1	4	1	2	3	1	2	1	3	0	2	2	1	2	3	3	3	2	3	4	1	2	0	0	3	1	1	2	2	1
94	2	1	3	0	2	1	3	0	2	3	2	0	2	2	2	3	0	0	0	0	3	1	1	2	1	3	1	0	1	3
95	4	2	2	3	3	2	2	3	3	2	1	1	3	1	3	3	0	3	1	3	3	1	4	1	4	3	1	2	1	1
96	3	4	1	2	2	2	4	1	4	3	1	4	2	3	3	0	4	4	3	4	2	3	1	3	4	1	3	1	2	0
97	4	2	1	3	3	2	3	0	4	3	3	3	0	0	4	2	3	2	4	4	3	0	3	3	3	0	0	3	2	3
98	3	2	2	3	2	1	3	2	3	3	2	3	1	3	1	1	3	2	3	3	2	1	1	1	3	0	3	1	2	2
99	1	2	2	3	3	2	3	1	3	3	2	3	2	3	3	1	2	3	2	3	1	2	2	3	2	2	2	1	3	3
100	3	3	3	2	3	1	3	1	3	1	1	3	2	4	3	1	3	2	2	3	1	3	1	3	2	0	3	3	2	3
101	1	2	2	3	3	2	3	1	3	3	3	3	3	3	2	1	2	3	3	3	1	2	3	3	3	2	2	2	2	2
102	1	4	3	3	1	1	3	2	4	4	1	4	2	4	3	3	2	2	3	3	1	3	2	3	2	0	3	4	3	3
103	0	3	1	1	4	4	3	0	3	0	0	3	0	4	2	1	2	1	4	4	1	0	0	3	3	2	0	0	0	0

Table 11.43: Raw Data NEO-FFI –Germany (part2)

no	Q31	Q32	Q33	Q34	Q35	Q36	Q37	Q38	Q39	Q40	Q41	Q42	Q43	Q44	Q45	Q46	Q47	Q48	Q49	Q50	Q51	Q52	Q53	Q54	Q55	Q56	Q57	Q58	Q59	Q60
1	1	2	3	3	2	1	2	3	3	3	1	3	1	2	1	3	2	1	2	2	2	2	1	1	2	2	3	1	3	2
2	0	2	2	2	3	0	3	4	2	4	0	3	2	2	1	0	1	4	2	3	0	2	3	1	3	0	3	2	2	0
3	1	1	3	2	1	1	3	3	4	3	2	3	1	2	3	1	2	1	3	2	1	1	3	3	2	4	2	2	2	4
4	0	1	4	2	3	1	3	2	1	3	1	3	0	2	2	1	2	2	3	3	1	3	2	2	3	0	2	1	2	2
5	0	4	4	3	4	4	4	3	0	4	0	4	2	3	3	1	4	2	3	4	0	4	4	0	4	1	3	1	0	4
6	1	2	4	3	3	2	4	1	4	3	0	4	4	2	4	0	2	1	3	3	1	3	2	1	4	1	2	2	2	3
7	2	2	2	3	3	1	3	2	2	3	2	3	1	2	3	2	1	2	3	2	2	2	2	2	3	3	3	3	2	2
8	1	2	3	3	3	1	4	3	3	4	1	3	3	2	2	1	3	3	3	3	2	3	3	3	4	2	3	2	3	2
9	2	2	3	2	3	2	3	2	2	4	2	2	3	1	2	2	3	4	3	3	2	3	3	0	2	3	1	2	2	3
10	1	1	3	3	2	3	3	2	2	3	1	3	1	1	2	1	2	0	3	2	1	2	3	2	2	2	3	2	3	2
16	3	0	4	3	1	2	0	4	2	4	4	0	0	2	1	4	4	2	4	0	4	2	2	1	4	4	3	2	0	4
17	0	2	3	3	3	2	3	2	4	3	2	2	2	2	1	0	3	1	3	3	0	3	3	2	4	0	2	3	3	3
18	0	2	2	3	2	1	2	2	3	3	2	2	2	1	1	1	3	0	3	2	1	3	3	2	3	2	2	3	3	3
19	2	1	2	2	1	1	3	4	1	4	1	2	0	1	4	1	3	2	3	3	2	2	2	3	3	1	3	3	3	2
20	1	2	3	3	3	1	4	3	1	4	1	4	3	3	3	0	4	3	3	3	2	2	1	3	3	2	3	3	2	3
21	0	2	2	3	2	1	2	2	3	3	2	2	2	1	1	1	3	0	3	2	1	3	3	2	3	2	2	3	3	3
22	4	1	2	3	3	2	0	2	2	4	2	0	4	1	4	2	3	1	3	3	2	2	3	1	4	1	2	2	1	3
23	0	2	4	3	4	1	3	4	3	4	0	2	0	2	3	0	3	3	3	4	0	4	3	3	4	0	3	0	3	3
24	1	2	2	3	2	1	3	2	3	3	1	3	3	3	3	1	2	1	2	3	1	3	3	3	4	2	3	1	3	3
25	1	1	4	3	3	2	3	2	2	3	1	4	2	2	1	1	2	1	3	3	1	2	3	2	4	4	2	1	1	2
26	0	2	3	2	1	2	1	4	1	4	1	1	3	2	4	3	1	0	3	0	1	1	3	1	3	3	1	4	1	3
27	1	3	3	3	3	2	3	3	3	3	2	3	3	1	3	1	3	2	3	3	1	3	3	2	1	3	1	2	3	2
28	0	3	3	3	2	1	2	3	2	4	0	4	3	2	4	0	2	0	3	3	0	3	4	4	4	2	3	2	3	2
29	1	2	3	3	2	1	3	4	3	3	1	4	4	3	3	1	2	1	2	2	1	3	3	2	3	2	2	2	1	2
30	2	1	3	2	3	2	2	4	1	3	1	3	3	2	3	2	3	3	3	3	2	2	3	1	3	3	1	2	2	3
31	1	2	3	3	3	1	3	4	4	4	1	2	1	1	3	2	1	2	3	3	1	2	3	1	3	3	3	2	3	3
32	2	3	3	2	2	2	2	3	3	3	1	2	1	2	2	2	3	1	3	2	2	3	2	1	3	3	1	3	0	4
33	1	1	4	2	2	3	3	2	3	2	2	3	4	1	1	2	1	1	3	2	2	2	3	2	2	3	0	3	3	2
34	3	3	3	3	4	2	3	4	1	4	1	1	2	1	4	3	4	2	3	3	2	3	3	2	4	4	3	2	1	4
35	0	2	2	3	2	1	2	2	3	3	2	2	2	1	1	1	3	0	3	2	1	3	3	2	3	2	2	3	3	3
36	1	2	2	2	2	1	2	4	1	4	1	3	2	2	2	1	1	0	3	2	0	2	2	3	4	2	3	2	4	2
37	2	1	1	2	2	3	1	0	4	2	4	0	4	2	1	3	3	1	3	2	3	2	4	3	2	3	1	2	1	3
38	1	2	2	2	2	2	4	2	3	3	1	3	2	2	3	2	2	1	3	3	1	2	3	1	3	3	3	3	3	2
39	4	4	0	4	4	2	4	0	3	4	1	4	4	4	0	2	4	0	4	3	0	4	4	2	1	0	4	4	0	3
40	1	2	3	2	1	3	3	1	2	3	1	3	4	2	3	1	1	2	3	3	1	3	4	0	3	3	2	3	1	2
41	2	1	2	3	2	1	3	2	3	2	1	2	0	3	2	1	0	3	2	3	1	2	2	2	3	2	3	0	3	1
42	0	4	3	4	4	2	4	0	3	4	1	4	4	4	0	2	4	0	4	3	0	4	4	2	1	0	4	4	0	3
43	1	2	3	2	3	1	3	2	3	3	1	2	2	2	3	1	1	1	3	3	2	2	2	2	3	1	2	2	2	3
44	3	3	2	3	4	1	3	4	2	4	2	3	1	2	1	1	4	2	3	4	1	4	4	0	3	3	2	3	3	4
45	1	2	2	3	2	1	3	3	3	4	1	1	2	1	3	0	2	1	2	2	1	2	3	1	3	1	2	2	4	3
46	3	1	4	4	1	0	4	4	4	3	0	0	0	2	1	0	1	0	3	2	0	2	3	1	3	0	4	1	4	0
47	2	2	3	3	3	3	3	2	1	3	3	3	3	2	1	1	2	1	3	3	3	3	3	2	3	3	1	2	2	3
48	0	3	3	3	3	3	4	3	3	3	1	3	3	2	3	1	3	1	3	3	1	3	2	0	3	3	1	3	3	4
49	1	3	3	3	3	1	4	2	3	3	0	4	4	2	2	1	2	1	3	2	1	4	3	2	3	3	3	2	2	1
50	2	1	2	3	3	1	4	2	4	4	2	2	0	2	4	1	2	3	3	3	0	3	2	2	4	2	3	2	4	2
51	2	1	3	2	2	2	2	3	2	3	2	1	1	2	2	1	2	1	2	1	2	2	3	1	2	2	3	3	3	2
52	2	1	3	4	1	2	4	2	3	3	0	4	2	1	2	1	1	1	4	2	1	4	3	2	3	0	2	4	1	2
76	2	3	4	3	3	2	3	2	4	4	0	3	2	3	4	1	2	2	3	2	1	4	3	1	2	1	3	3	4	2
77	0	1	2	3	2	1	2	2	1	3	1	2	3	1	2	1	3	1	3	2	0	2	2	3	3	2	2	1	2	2

no	Q31	Q32	Q33	Q34	Q35	Q36	Q37	Q38	Q39	Q40	Q41	Q42	Q43	Q44	Q45	Q46	Q47	Q48	Q49	Q50	Q51	Q52	Q53	Q54	Q55	Q56	Q57	Q58	Q59	Q60
78	2	1	2	2	3	1	2	2	2	2	2	1	2	2	1	3	4	2	3	3	1	1	3	1	3	2	1	2	3	2
79	2	2	3	3	2	2	3	2	3	2	2	3	3	3	1	2	3	4	3	2	2	3	3	2	2	2	3	2	2	2
80	1	2	3	3	3	1	3	2	3	2	1	3	3	3	2	1	3	1	3	2	1	3	3	2	3	3	3	3	4	3
81	2	1	3	3	3	1	4	2	1	4	0	3	3	1	3	1	3	2	1	2	0	3	4	1	4	1	4	3	1	3
82	0	3	4	3	3	0	4	2	3	3	0	4	4	2	2	1	0	0	4	3	0	3	4	3	4	1	0	4	3	2
83	1	2	3	2	2	1	3	2	2	3	1	2	3	4	1	1	2	1	3	2	1	2	2	3	3	1	2	2	3	2
84	0	2	3	3	3	0	4	2	3	4	1	4	2	3	3	1	1	0	3	3	0	3	3	3	4	2	2	2	3	3
85	0	2	4	3	4	1	3	4	3	4	0	2	0	2	3	0	3	3	3	4	0	4	3	3	4	0	3	0	3	3
86	1	1	2	2	3	1	1	3	1	3	0	2	3	2	1	2	2	1	3	3	1	2	4	2	4	1	3	1	3	2
87	3	1	3	3	0	3	3	2	4	2	1	4	3	2	1	1	1	1	3	1	2	1	3	4	2	1	3	1	4	1
88	1	3	3	2	3	3	3	4	4	1	0	3	2	2	2	1	4	2	3	2	1	2	2	1	3	3	1	2	0	4
89	1	1	2	2	3	2	3	2	3	3	1	3	1	1	2	1	1	3	4	3	1	2	3	2	4	3	3	2	3	3
90	1	2	3	3	3	1	3	3	2	3	1	3	2	2	2	1	4	0	2	3	1	3	3	2	4	1	3	1	3	3
91	2	2	2	3	4	1	3	3	2	3	1	2	2	2	3	1	4	2	3	3	2	4	2	2	4	2	3	1	1	3
92	1	2	3	3	2	1	3	2	3	4	1	3	3	2	3	1	2	2	3	3	1	3	3	3	3	2	4	3	3	3
93	1	1	2	3	3	1	2	2	3	3	1	1	2	1	3	1	1	1	1	2	0	2	2	2	3	1	2	2	3	3
94	2	2	2	1	2	2	0	3	2	1	2	1	2	2	2	3	1	3	0	1	2	1	1	2	2	2	2	2	2	1
95	2	2	3	1	3	2	2	1	0	4	3	1	4	1	2	3	2	1	2	3	2	2	4	2	2	2	2	3	2	2
96	1	2	4	3	3	0	4	3	4	3	0	4	1	2	2	0	1	0	3	3	0	4	3	1	4	3	3	3	2	3
97	3	2	2	2	3	1	3	3	1	4	2	2	0	4	2	1	3	3	2	3	0	2	2	3	3	4	3	1	3	3
98	1	2	3	3	3	1	3	4	4	4	1	2	1	1	3	2	1	2	3	3	1	2	3	1	3	3	3	2	3	3
99	2	2	2	4	3	1	3	3	3	3	1	3	2	2	1	2	1	3	3	3	3	3	3	3	3	4	2	1	3	2
100	1	2	3	3	3	1	3	4	3	4	0	3	0	1	3	1	1	3	2	3	0	3	3	0	4	1	3	1	2	3
101	3	1	2	4	3	1	3	2	3	4	1	4	3	1	2	1	0	2	3	3	3	3	3	2	3	3	3	2	3	2
102	1	2	3	3	1	1	3	4	3	3	1	3	1	1	3	0	1	1	3	2	1	3	1	1	2	3	4	3	2	2
103	2	0	2	3	1	0	3	3	4	4	0	0	0	2	3	2	3	4	3	1	1	2	1	1	4	4	2	0	4	2

Table 11.44: Centred Scores NEO-FFI – Germany

no	Neuroticism	Extraversion	Openness	Agreeableness	Consciousness
1	-0,383	0,283	-0,050	0,200	-0,050
2	-1,683	0,733	0,567	0,150	0,233
3	-0,383	0,033	-0,300	0,700	-0,050
4	-0,917	0,083	-0,333	0,333	0,833
5	-1,417	1,333	-0,250	-0,833	1,167
6	-1,367	0,550	-0,283	0,300	0,800
7	-0,417	0,167	-0,250	0,333	0,167
8	-1,083	0,333	0,000	0,167	0,583
9	-0,050	0,117	-0,133	-0,217	0,283
10	-0,583	0,583	-0,333	0,333	0,000
16	0,767	-0,400	-0,150	0,100	-0,317
17	-1,083	0,250	-0,333	0,833	0,333
18	-0,767	0,317	0,233	0,150	0,067
19	-0,683	0,067	-0,267	0,150	0,733
20	-1,217	0,617	-0,217	0,450	0,367
21	-0,817	0,267	0,183	0,350	0,017
22	-0,283	-0,367	0,050	-0,367	0,967
23	-1,850	0,400	-0,683	0,733	1,400
24	-1,433	0,567	-0,350	0,650	0,567
25	-0,833	0,250	0,000	0,250	0,333
26	-0,267	-0,517	0,650	-0,183	0,317

no	Neuroticism	Extraversion	Openness	Agreeableness	Consciousness
27	-0,883	0,367	0,367	0,367	-0,217
28	-1,900	0,350	0,267	0,433	0,850
29	-1,083	0,500	0,667	0,083	-0,167
30	-0,017	-0,100	-0,350	-0,100	0,567
31	-0,717	0,117	-0,217	0,283	0,533
32	-0,267	-0,017	-0,183	-0,350	0,817
33	-0,167	-0,083	0,333	0,250	-0,333
34	-0,317	0,350	-0,233	-0,650	0,850
35	-0,767	0,317	0,233	0,400	-0,183
36	-0,867	0,133	0,133	0,383	0,217
37	0,817	-0,850	-0,017	0,150	-0,100
38	-0,767	0,233	-0,100	0,317	0,317
39	-1,033	1,133	-0,283	0,133	0,050
40	-0,800	0,367	0,533	-0,383	0,283
41	-0,633	0,200	-0,467	0,700	0,200
42	-1,683	1,067	0,233	0,233	0,150
43	-0,967	-0,050	0,033	0,200	0,783
44	-0,850	0,483	-0,100	-0,433	0,900
45	-1,433	0,317	-0,100	0,567	0,650
46	-1,733	0,683	-0,150	1,350	-0,150
47	-0,033	0,133	-0,117	-0,117	0,133
48	-1,183	0,567	0,317	0,067	0,233
49	-1,200	0,800	0,133	0,217	0,050
50	-0,850	0,400	-0,767	0,483	0,733
51	-0,200	-0,033	0,133	0,050	0,050
52	-1,267	0,567	0,400	0,483	-0,183
76	-1,050	0,367	-0,050	0,450	0,283
77	-1,000	0,083	0,083	0,333	0,500
78	-0,100	-0,433	0,067	0,233	0,233
79	-0,533	0,633	0,133	0,217	-0,450
80	-0,933	0,567	0,067	0,400	-0,100
81	-1,317	0,683	0,350	-0,483	0,767
82	-2,100	0,400	0,900	0,983	-0,183
83	-1,150	0,267	0,350	0,850	-0,317
84	-1,200	0,217	-0,367	0,633	0,717
85	-1,850	0,400	-0,683	0,733	1,400
86	-0,850	-0,267	0,233	0,483	0,400
87	0,067	0,400	-0,183	0,567	-0,850
88	-0,567	0,600	0,183	-0,067	-0,150
89	-0,767	0,233	-0,517	0,317	0,733
90	-1,000	0,667	-0,333	-0,167	0,833
91	-1,133	0,533	-0,633	0,200	1,033
92	-1,200	0,550	-0,117	0,467	0,300
93	-0,683	0,067	-0,350	0,233	0,733
94	0,667	-0,500	0,000	-0,250	0,083
95	0,317	-0,683	0,567	-0,683	0,483
96	-1,300	0,950	-0,383	0,283	0,450
97	-0,250	-0,167	-0,667	0,250	0,833
98	-0,717	0,117	-0,217	0,283	0,533
99	-0,533	-0,033	-0,283	0,550	0,300
100	-1,283	0,550	-0,033	0,050	0,717
101	-0,567	-0,067	-0,067	0,350	0,350

no	Neuroticism	Extraversion	Openness	Agreeableness	Consciousness
102	-1,150	0,600	0,017	0,433	0,100
103	-0,417	-0,083	-0,833	0,833	0,500

Table 11.45: Raw Data WPI – Germany

no	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
1	1	1	3	3	2	1	3	0	2	3	1	1	2	2	2	3	3	3	1	1	2	3	3	2	2	3	3	3	3	1
2	2	1	2	3	2	2	4	0	3	3	2	2	3	2	2	3	2	0	1	2	2	3	3	2	2	3	3	4	2	1
3	1	2	3	1	3	1	4	1	3	1	2	1	3	2	3	1	2	1	1	2	3	2	3	2	3	3	2	3	2	2
4	1	3	3	3	3	3	2	1	1	3	0	2	2	2	2	1	2	3	3	3	3	3	3	2	3	3	1	2	2	2
5	2	2	3	4	4	4	4	4	2	4	3	3	3	2	3	4	4	3	2	3	2	1	3	3	4	3	3	3	4	3
6	0	2	3	2	3	2	3	3	2	2	3	2	2	3	2	2	2	3	2	3	2	3	3	2	2	2	2	3	3	2
7	1	3	2	3	3	1	3	2	1	2	2	2	3	2	2	1	3	1	1	2	3	1	3	2	2	3	2	2	2	3
8	1	3	2	3	3	2	3	1	2	2	3	1	3	2	3	3	3	2	2	3	2	3	3	2	2	3	3	3	2	3
9	1	3	2	2	3	3	3	2	1	2	3	2	2	1	2	0	3	2	3	3	3	1	2	2	2	2	3	3	2	3
10	3	2	2	3	3	0	3	3	2	3	2	1	3	2	2	2	3	1	2	3	2	1	3	2	1	2	3	3	2	3
16	0	4	2	4	2	4	4	0	2	4	1	2	3	4	4	4	3	4	3	2	3	4	4	4	4	4	2	3	1	2
17	3	1	3	3	3	3	4	4	2	2	3	2	3	2	1	3	3	1	2	3	2	2	3	2	2	3	3	0	1	3
18	1	2	2	3	3	3	4	1	1	3	3	1	3	2	3	3	4	2	1	3	1	1	4	3	2	3	3	4	2	2
19	0	4	4	3	3	2	2	1	3	2	1	4	4	3	2	3	2	3	3	2	2	3	3	3	4	2	1	2	3	2
20	1	3	2	2	4	1	3	1	2	3	3	0	4	3	3	3	2	0	0	4	4	0	4	3	1	3	3	3	3	3
21	1	2	2	3	3	3	4	1	1	3	3	1	3	2	3	3	4	2	1	3	1	1	4	3	2	3	3	4	2	2
22	2	1	3	4	4	0	4	3	2	3	2	1	1	3	2	2	3	0	1	2	1	3	3	1	2	3	3	4	2	2
23	1	2	2	3	4	2	3	3	3	4	1	2	3	3	3	4	3	2	2	3	0	1	4	2	2	3	3	3	1	3
24	3	2	3	3	4	2	2	1	3	3	2	1	3	4	2	3	2	1	2	4	1	2	3	2	3	3	2	3	2	4
25	1	2	2	3	4	2	3	3	2	4	3	2	2	2	2	3	3	2	2	3	1	2	2	1	3	2	3	2	3	2
26	1	1	4	3	3	4	3	2	3	3	3	4	3	2	3	3	3	3	3	4	1	1	4	4	3	3	2	2	2	3
27	1	3	3	2	3	2	3	1	2	2	3	2	3	2	3	2	3	3	3	2	3	3	3	2	2	3	3	3	2	2
28	1	2	4	3	4	3	4	2	2	3	2	2	3	1	3	3	3	1	1	3	2	1	3	3	2	3	3	3	3	3
29	1	2	2	3	4	0	3	2	3	2	3	1	4	4	1	3	2	1	2	3	2	4	3	1	4	3	3	3	2	4
30	1	3	3	2	3	1	3	3	1	3	3	3	3	3	2	2	3	2	1	3	2	1	3	3	2	3	2	3	2	3
31	0	3	2	2	3	2	3	2	1	2	4	2	3	3	3	3	3	2	2	3	2	2	3	3	3	3	3	3	3	3
32	1	2	3	2	4	3	4	2	3	3	1	2	3	3	1	3	4	1	2	3	2	2	1	1	4	3	4	2	2	4
33	0	3	2	3	3	1	1	3	1	2	3	1	2	1	3	2	1	1	2	3	3	2	4	3	3	2	3	2	3	3
34	2	4	3	4	4	3	3	1	2	4	2	1	3	3	2	4	3	2	3	3	2	3	4	3	3	3	4	4	2	3
35	1	2	2	3	3	3	4	1	1	3	3	1	3	2	3	3	4	2	1	3	1	1	4	3	2	3	3	4	2	2
36	1	1	2	4	4	2	3	2	2	4	3	2	3	2	1	4	4	1	2	3	1	3	3	3	3	3	3	4	3	3
37	1	3	1	3	2	3	3	1	1	3	2	3	2	1	3	3	4	3	3	3	4	2	3	3	3	2	3	3	3	1
38	1	2	3	3	3	2	3	2	2	3	2	2	3	2	3	3	3	2	1	3	2	2	3	2	3	3	3	3	1	3
39	0	0	4	3	4	0	1	2	4	3	4	1	4	3	3	0	4	1	0	3	0	0	4	0	3	4	4	4	3	4
40	1	3	3	2	3	3	3	3	1	2	3	1	3	3	3	1	2	3	2	4	2	1	4	2	3	3	3	3	3	4
41	1	2	1	3	3	3	1	2	1	2	1	2	2	2	2	3	2	2	3	2	3	2	2	1	2	2	2	2	2	2
42	0	0	4	3	4	0	1	2	4	3	4	1	4	3	3	0	4	1	0	3	0	0	4	0	3	4	4	4	3	4
43	1	3	2	3	2	1	3	3	2	3	2	2	2	2	1	2	2	1	1	3	3	1	3	2	2	2	3	3	2	3
44	1	1	1	2	3	3	3	1	2	3	4	2	4	2	3	3	2	3	2	3	2	3	4	3	3	3	3	3	3	3
45	0	3	3	3	4	1	2	1	2	3	2	1	2	2	2	2	3	2	1	3	3	2	3	3	3	1	3	2	2	4
46	0	2	2	3	4	3	3	4	2	2	3	1	2	3	3	3	3	2	2	4	2	1	2	2	3	3	4	3	2	4
47	0	3	3	3	4	3	4	2	0	3	4	3	3	0	3	1	3	3	2	3	3	0	1	3	3	3	2	3	2	2
48	3	3	2	1	4	1	3	3	1	1	3	2	3	1	1	1	4	1	1	4	2	1	1	1	3	3	4	3	2	4
49	1	3	3	3	4	1	3	3	1	3	3	1	3	2	2	2	3	1	1	3	2	1	4	2	3	3	3	2	2	1
50	1	3	3	3	4	3	3	3	2	2	3	2	3	2	4	2	2	3	2	3	2	1	3	4	3	3	3	3	3	3

no	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
51	0	4	3	2	3	1	2	1	3	1	1	1	2	3	3	2	1	2	1	2	3	2	3	3	3	3	3	2	3	2
52	1	2	3	2	3	3	3	2	3	2	3	1	3	3	2	1	2	0	1	4	1	1	4	3	3	4	2	2	2	3
76	3	2	2	3	3	0	3	3	2	3	2	1	3	2	2	2	3	1	2	2	3	1	1	1	2	3	3	3	2	1
77	1	3	2	3	2	1	3	1	2	2	2	3	2	2	1	3	2	3	3	3	2	3	3	2	3	2	3	2	2	3
78	3	2	2	1	3	2	3	2	1	1	2	2	2	1	3	3	2	3	2	3	3	2	2	2	2	2	3	3	2	2
79	0	3	2	2	3	2	3	2	2	2	3	2	3	2	3	2	3	2	1	3	2	2	2	2	2	3	3	3	2	3
80	1	1	3	4	3	1	3	3	1	3	3	1	3	3	3	1	3	1	1	3	1	2	3	2	2	3	3	3	2	4
81	3	2	3	4	4	1	2	3	2	3	3	1	3	1	2	1	3	1	1	3	1	0	3	1	1	3	3	3	1	4
82	1	1	4	2	3	3	4	3	2	2	4	0	4	3	3	1	3	2	0	3	2	0	3	3	3	4	4	3	1	4
83	1	2	3	2	3	1	3	3	2	1	3	1	3	3	2	1	3	2	1	3	2	3	2	1	1	3	3	3	2	3
84	1	3	2	2	4	2	3	1	2	2	3	2	3	3	3	2	3	1	1	3	1	1	3	2	3	3	3	3	2	2
85	1	2	3	2	3	1	3	3	2	1	3	1	3	3	2	1	3	2	1	3	2	3	2	1	1	3	3	3	2	3
86	1	3	4	3	4	2	3	2	3	3	3	2	4	3	2	2	3	1	2	2	2	1	3	2	2	3	2	3	2	2
87	1	3	2	1	3	2	3	1	2	1	3	1	3	0	3	3	2	1	1	3	3	2	3	3	1	3	2	3	1	2
88	1	1	3	3	2	1	2	4	2	2	2	2	4	3	3	2	2	1	1	3	2	2	3	1	3	3	2	3	2	3
89	3	2	2	3	3	2	3	1	2	3	2	1	3	2	1	2	3	1	1	3	2	3	3	2	2	2	3	3	2	3
90	1	1	3	3	3	2	4	3	2	3	2	1	3	3	2	4	3	1	2	3	2	2	3	3	2	3	3	3	2	2
91	3	1	2	3	4	4	3	1	3	2	3	2	3	2	2	3	2	2	3	4	2	2	3	2	3	2	3	3	2	4
92	1	2	3	2	3	1	3	2	2	2	2	2	3	2	3	2	2	2	1	3	2	1	3	2	2	3	3	3	2	3
93	3	3	2	3	3	3	4	2	1	3	2	2	3	2	3	2	3	0	3	2	2	3	3	3	1	3	3	3	2	3
94	3	1	3	3	1	2	1	3	3	1	1	3	2	2	2	3	1	3	3	1	1	3	3	2	2	2	2	2	2	1
95	0	3	2	3	3	4	4	2	2	4	3	1	3	2	2	3	2	1	2	2	2	3	4	3	3	3	2	2	2	2
96	0	3	3	3	4	3	4	2	3	4	3	1	3	3	3	3	2	3	1	4	2	2	3	2	3	3	2	3	3	4
97	0	2	3	2	4	0	3	1	2	2	2	2	3	3	4	2	3	4	1	4	2	1	4	4	3	3	0	2	3	4
98	1	3	3	2	3	2	3	1	2	2	3	2	3	2	3	2	3	3	3	2	3	3	3	2	2	3	3	3	2	2
99	1	3	2	2	3	2	3	2	2	3	2	2	2	2	2	3	2	0	1	3	2	1	3	3	2	2	3	2	2	4
100	2	2	3	3	3	3	3	3	3	3	2	2	3	2	2	2	3	2	1	2	2	2	2	3	3	3	3	2	3	3
101	2	3	2	2	3	1	1	1	2	2	3	2	2	2	3	2	1	1	1	3	3	2	4	2	2	3	3	3	2	2
102	0	3	1	1	3	3	4	2	2	1	2	1	3	1	2	2	2	0	1	3	2	3	1	3	3	3	3	1	1	3
103	1	4	1	1	2	3	2	3	3	1	0	3	1	2	2	3	2	1	1	3	3	0	4	2	2	1	0	1	1	3

Table 11.46: Centred Scores WPI – Germany

no.	Primary Scale		Secondary Scale			
	Intrinsic Motivation	Extrinsic Motiation	Enjoyment Scale	Challenge Scale	Outward Scale	Compensation Scale
1	0,026	-0,041	0,010	0,043	-0,312	0,500
2	0,223	-0,177	0,219	0,229	-0,465	0,400
3	0,437	-0,430	0,281	0,614	-0,195	-0,900
4	-0,223	0,243	-0,215	-0,233	0,182	0,367
5	0,116	-0,018	0,400	-0,210	0,007	-0,067
6	0,259	-0,274	0,277	0,238	-0,345	-0,133
7	0,284	-0,316	0,371	0,186	-0,223	-0,500
8	0,229	-0,238	0,308	0,138	-0,440	0,167
9	0,199	-0,201	0,548	-0,200	-0,002	-0,600
10	0,449	-0,418	0,796	0,052	-0,610	-0,033
16	-0,322	0,411	-0,317	-0,329	0,167	0,900
17	0,421	-0,379	0,515	0,314	-0,568	0,000
18	0,383	-0,350	0,723	-0,005	-0,408	-0,233
19	-0,166	0,234	-0,594	0,324	0,218	0,267
20	0,560	-0,573	0,496	0,633	-0,477	-0,767

no.	Primary Scale		Secondary Scale			
	Intrinsic Motivation	Extrinsic Motiation	Enjoyment Scale	Challenge Scale	Outward Scale	Compensation Scale
21	0,380	-0,353	0,717	-0,005	-0,413	-0,233
22	0,558	-0,576	0,750	0,338	-1,047	0,367
23	0,443	-0,423	0,644	0,214	-0,785	0,300
24	0,371	-0,362	0,133	0,643	-0,593	0,100
25	0,180	-0,153	0,283	0,062	-0,447	0,433
26	0,222	-0,111	0,213	0,233	-0,083	-0,167
27	0,156	-0,111	0,075	0,248	-0,133	-0,067
28	0,353	-0,313	0,504	0,181	-0,303	-0,333
29	0,589	-0,544	0,417	0,786	-0,967	0,300
30	0,414	-0,386	0,502	0,314	-0,278	-0,600
31	0,288	-0,246	0,381	0,181	-0,202	-0,333
32	0,460	-0,407	0,550	0,357	-0,560	-0,100
33	0,063	-0,070	0,294	-0,200	-0,105	0,000
34	0,117	-0,083	0,256	-0,043	-0,475	0,700
35	0,383	-0,350	0,723	-0,005	-0,408	-0,233
36	0,340	-0,260	0,567	0,081	-0,773	0,767
37	-0,351	0,382	0,154	-0,929	0,423	0,300
38	0,306	-0,294	0,452	0,138	-0,425	-0,033
39	1,181	-1,219	0,881	1,524	-1,262	-1,133
40	0,457	-0,410	0,727	0,148	-0,132	-0,967
41	-0,192	0,208	-0,110	-0,286	0,012	0,600
42	1,166	-1,234	0,852	1,524	-1,285	-1,133
43	0,297	-0,303	0,702	-0,167	-0,372	-0,167
44	0,139	-0,128	0,160	0,114	-0,192	0,000
45	0,217	-0,183	0,390	0,019	-0,242	-0,067
46	0,533	-0,467	0,871	0,148	-0,517	-0,367
47	0,063	-0,070	0,094	0,029	0,195	-0,600
48	0,614	-0,652	0,981	0,195	-0,362	-1,233
49	0,418	-0,449	0,421	0,414	-0,523	-0,300
50	0,184	-0,149	0,208	0,157	0,127	-0,700
51	0,109	-0,091	-0,150	0,405	0,147	-0,567
52	0,636	-0,631	0,454	0,843	-0,497	-0,900
76	0,244	-0,289	0,200	0,295	-0,467	0,067
77	-0,002	0,064	0,258	-0,300	-0,153	0,500
78	0,007	0,007	0,313	-0,343	0,210	-0,400
79	0,351	-0,382	0,421	0,271	-0,323	-0,500
80	0,599	-0,601	0,790	0,381	-0,835	-0,133
81	0,659	-0,674	0,785	0,514	-0,812	-0,400
82	0,916	-0,884	0,904	0,929	-0,577	-1,500
83	0,676	-0,658	0,692	0,657	-0,687	-0,600
84	0,429	-0,438	0,317	0,557	-0,307	-0,700
85	0,657	-0,677	0,656	0,657	-0,715	-0,600
86	0,491	-0,442	0,079	0,962	-0,530	-0,267
87	0,259	-0,274	0,294	0,219	-0,178	-0,467
88	0,469	-0,464	0,488	0,448	-0,563	-0,267
89	0,272	-0,261	0,494	0,019	-0,458	0,133
90	0,420	-0,380	0,571	0,248	-0,737	0,333
91	0,220	-0,180	0,313	0,114	-0,270	0,000
92	0,419	-0,448	0,490	0,338	-0,355	-0,633
93	0,143	-0,057	0,456	-0,214	-0,235	0,300
94	-0,168	0,232	-0,256	-0,067	0,082	0,533

no.	Primary Scale		Secondary Scale			
	Intrinsic Motivation	Extrinsic Motiation	Enjoyment Scale	Challenge Scale	Outward Scale	Compensation Scale
95	0,086	-0,048	0,069	0,105	-0,338	0,533
96	0,357	-0,310	0,310	0,410	-0,398	-0,133
97	0,307	-0,293	0,204	0,424	-0,023	-0,833
98	0,150	-0,117	0,065	0,248	-0,142	-0,067
99	0,256	-0,278	0,529	-0,057	-0,317	-0,200
100	0,187	-0,147	0,163	0,214	-0,070	-0,300
101	0,151	-0,182	0,054	0,262	-0,090	-0,367
102	0,246	-0,288	0,335	0,143	-0,232	-0,400
103	0,002	0,002	0,388	-0,438	0,337	-0,667

Table 11.47: Raw Data SVS – Germany (part 1)

no	V1	V2	V3	V4	V5	V6	V7	V8	V9	V10	V11	V12	V13	V14	V15	V16	V17	V18	V19	V20	V21	V22	V23	V24	V25	V26	V27	V28	V29	V30
1	7	5	5	3	5	2	3	2	6	3	2	5	5	5	3	3	3	4	2	3	5	6	5	2	5	3	5	4	3	2
2	5	5	3	5	6	2	3	3	5	4	5	6	4	4	3	2	5	4	4	6	6	5	5	7	5	4	4	5	2	4
3	6	6	4	5	6	4	6	5	3	2	3	3	4	4	4	3	6	2	6	3	6	6	4	4	4	3	3	6	3	5
4	3	1	0	3	6	2	2	3	3	3	4	4	1	3	6	3	1	3	2	2	3	4	3	1	5	4	3	6	-1	5
5	2	3	3	4	5	4	4	5	5	6	5	5	4	6	5	4	6	5	6	5	5	6	6	4	4	5	5	6	4	4
6	4	6	3	4	7	2	4	4	5	6	5	4	3	7	3	5	6	4	5	3	5	5	4	0	6	4	4	6	6	5
7	6	6	0	3	6	0	5	5	4	6	6	0	3	4	3	4	4	4	5	4	5	5	4	4	2	3	3	7	2	4
8	6	3	-1	4	3	2	5	3	3	3	2	2	2	3	1	5	7	2	2	2	3	4	2	1	4	2	1	6	0	4
9	2	3	6	7	6	2	3	5	6	5	6	6	2	4	6	5	5	5	6	5	6	7	4	3	3	3	5	6	5	4
10	6	3	2	6	3	1	3	6	5	5	4	1	1	6	2	3	3	3	3	4	6	6	3	4	4	3	3	6	5	4
16	7	6	-1	3	6	1	2	3	1	6	4	3	0	5	0	1	3	0	6	6	6	6	3	3	6	1	-1	7	1	3
17	3	6	7	7	7	3	6	2	7	3	3	6	3	2	6	5	2	0	0	6	7	7	4	2	6	5	6	7	0	2
18	5	5	2	5	7	4	2	5	4	3	5	3	4	5	2	3	6	2	4	3	4	7	4	3	5	2	2	5	4	6
19	2	4	4	3	0	2	5	5	4	3	4	3	5	4	2	2	5	3	3	6	5	4	2	3	4	4	2	2	1	5
20	4	3	2	4	7	3	4	5	5	4	3	4	2	5	2	4	4	0	3	1	6	7	4	2	5	2	3	7	1	4
21	5	5	2	5	7	4	2	5	4	3	5	3	4	5	2	3	6	2	4	3	4	7	4	3	5	2	2	5	4	6
22	3	1	-1	2	6	1	2	3	3	4	3	3	1	4	2	5	5	2	2	5	4	6	4	3	2	2	2	6	2	4
23	4	6	-1	7	7	0	6	3	7	3	6	2	6	7	2	2	2	1	7	4	7	7	7	2	7	7	1	7	0	1
24	6	2	-1	3	5	2	4	4	3	6	4	2	2	5	2	4	4	3	5	3	4	5	4	3	5	4	1	6	1	7
25	6	3	0	5	6	4	7	6	4	3	3	3	3	4	2	2	5	3	4	4	5	5	5	4	3	2	3	6	2	4
26	0	3	6	6	5	5	6	1	6	1	5	7	1	3	6	6	2	1	6	0	5	3	6	-1	6	4	6	6	2	1
27	2	3	1	4	4	-1	6	2	3	3	6	5	2	4	3	6	5	2	5	2	4	6	4	2	3	4	4	5	3	3
28	4	6	1	5	6	4	5	2	4	2	2	4	1	5	2	2	2	0	3	5	3	2	5	0	5	4	2	7	2	2
29	3	6	2	4	6	2	3	2	5	6	3	5	2	6	2	4	4	2	5	5	5	5	4	1	7	5	5	6	1	4
30	4	4	3	4	5	6	5	6	2	6	2	1	3	6	5	2	6	-1	5	3	6	7	4	2	5	3	2	6	0	6
31	4	4	2	4	6	3	4	4	5	5	3	2	3	6	6	5	4	1	4	5	6	6	5	2	3	3	4	6	2	4
32	3	5	6	6	7	5	5	6	6	6	6	5	6	6	4	4	5	6	5	6	6	6	5	2	6	5	6	6	5	4
33	5	6	2	6	6	1	5	4	4	6	6	5	6	4	6	5	7	6	5	6	6	6	4	6	6	3	4	6	4	6
34	7	5	-1	3	6	1	3	3	6	7	4	3	5	3	2	1	6	1	7	3	6	7	3	2	4	3	3	5	1	4

no	V1	V2	V3	V4	V5	V6	V7	V8	V9	V10	V11	V12	V13	V14	V15	V16	V17	V18	V19	V20	V21	V22	V23	V24	V25	V26	V27	V28	V29	V30
35	5	5	2	5	7	4	2	5	4	3	5	3	4	5	2	3	6	2	4	3	4	7	4	3	5	2	2	5	4	6
36	4	3	0	5	5	5	4	4	4	7	3	3	3	4	4	5	5	2	6	3	6	6	3	1	5	5	3	6	3	4
37	1	3	-1	6	5	3	3	2	2	4	3	5	4	2	0	4	3	6	4	0	1	7	6	0	2	3	3	4	6	1
38	6	5	1	3	7	3	2	6	3	6	4	2	3	4	6	3	5	3	6	5	5	6	3	3	4	5	2	6	4	6
39	3	5	-1	4	6	1	5	3	4	5	3	2	4	5	2	4	6	2	6	5	6	6	5	6	7	4	2	6	3	3
40	1	6	2	7	4	5	5	3	4	0	2	2	3	6	3	4	3	2	6	-1	5	6	3	2	3	4	1	6	5	4
41	4	5	1	5	2	2	4	6	3	7	4	5	2	5	5	2	2	4	0	5	2	4	6	-1	5	3	4	5	5	2
42	5	6	4	3	5	6	6	4	7	2	4	2	0	6	2	5	6	1	4	6	1	2	5	3	6	5	2	6	3	4
43	3	5	-1	4	4	2	3	1	2	5	3	1	2	4	2	3	5	0	5	3	3	6	2	2	2	2	1	5	1	2
44	4	5	0	5	6	2	5	6	6	6	4	4	4	6	5	5	5	2	5	5	6	6	5	3	5	5	3	5	4	4
45	0	2	-1	3	3	0	5	3	3	4	3	2	3	7	1	3	3	0	0	1	3	6	1	0	1	0	0	6	0	1
46	6	4	-1	5	6	1	4	6	3	5	5	3	3	6	0	4	3	2	2	3	5	7	3	2	4	2	2	6	2	5
47	5	4	-1	2	4	1	3	3	1	7	2	2	2	3	2	2	3	1	1	3	4	6	5	4	1	3	0	4	3	3
48	6	4	-1	4	6	5	5	3	4	3	6	2	4	6	2	5	6	5	4	4	5	6	3	5	6	5	3	7	4	6
49	4	5	-1	4	7	3	6	4	5	6	6	3	1	5	4	6	6	0	5	1	5	6	5	3	5	3	2	6	4	6
50	4	4	2	3	3	2	4	4	3	5	5	3	4	4	3	3	6	2	4	4	6	7	5	2	4	5	4	6	-1	3
51	4	3	2	4	5	1	3	3	4	7	3	2	3	4	2	2	2	-1	2	2	5	4	4	3	4	3	2	3	2	2
52	1	6	2	6	6	0	6	4	5	2	4	4	2	6	4	5	0	4	5	3	6	5	6	2	5	2	4	7	1	2
76	3	5	-1	4	7	3	4	3	3	6	3	1	3	4	3	2	4	3	5	4	4	6	4	3	4	3	1	6	2	3
77	2	5	3	4	4	1	2	3	4	3	5	3	4	5	4	2	3	3	2	2	4	7	4	2	3	1	3	6	1	2
78	3	3	0	2	5	2	2	3	3	7	2	3	4	3	2	2	3	2	6	3	6	6	3	2	4	2	0	6	3	3
79	7	4	1	5	6	1	6	6	6	6	5	3	4	6	3	5	3	2	6	4	7	7	4	6	6	3	6	5	5	4
80	5	6	-1	6	6	6	5	4	5	6	6	2	5	7	4	3	3	5	6	6	6	6	5	3	5	5	3	6	2	5
81	2	6	2	5	6	7	2	0	5	6	6	3	2	6	3	6	3	5	4	6	5	4	5	1	6	5	5	6	2	2
82	6	6	7	7	0	1	6	7	5	0	0	5	0	5	3	3	4	2	1	1	3	3	2	3	3	7	3	7	4	7
83	4	6	2	3	5	4	3	2	5	4	2	2	2	7	2	4	3	1	3	3	6	4	3	3	4	5	2	5	3	3
84	4	3	-1	5	6	2	3	3	7	5	6	4	5	7	3	4	3	4	4	5	3	4	6	3	6	4	3	5	3	3
85	3	4	0	2	6	2	4	2	5	1	2	4	3	2	5	5	7	1	3	0	2	4	5	6	2	2	3	2	7	4
86	4	3	0	3	7	1	4	3	2	4	6	3	2	2	0	1	5	2	2	3	5	5	2	3	4	2	1	5	2	4
87	5	5	-1	3	4	1	5	2	1	7	3	3	3	4	0	2	3	2	3	2	2	5	5	2	1	7	1	3	4	4
88	4	3	6	2	7	1	7	3	7	3	5	2	5	2	3	3	4	2	0	1	6	2	1	5	2	2	1	5	2	4
89	4	6	0	6	6	5	6	3	5	3	5	4	2	6	0	2	3	2	3	3	5	6	4	1	6	5	1	7	0	3
90	6	7	4	5	5	3	6	5	5	7	4	3	3	6	2	6	3	2	4	6	6	4	5	2	4	4	3	5	2	3
91	2	4	5	6	5	5	3	3	5	6	3	6	6	6	3	2	5	0	3	4	5	6	3	2	6	3	6	6	3	2
92	6	5	2	4	5	3	4	3	6	5	3	2	3	5	3	3	6	4	3	2	6	5	4	1	4	3	2	5	2	5
93	4	5	2	6	5	1	5	4	3	6	6	5	5	4	6	5	7	6	5	6	6	6	4	6	6	3	4	5	4	6
94	6	3	2	6	3	1	3	6	5	5	4	1	1	6	2	3	3	3	3	4	6	6	3	4	4	3	3	6	5	4
95	4	4	2	5	6	2	5	4	6	7	3	3	6	4	2	2	4	0	2	5	6	7	4	2	6	2	4	6	1	3
96	5	5	3	4	6	3	4	3	5	3	3	3	3	5	2	2	3	2	6	3	6	6	3	1	4	1	3	6	1	3
97	5	2	3	5	7	0	2	4	2	3	6	5	5	7	4	3	6	0	2	6	3	3	4	0	6	3	5	6	-1	5

no	V1	V2	V3	V4	V5	V6	V7	V8	V9	V10	V11	V12	V13	V14	V15	V16	V17	V18	V19	V20	V21	V22	V23	V24	V25	V26	V27	V28	V29	V30
98	3	5	-1	4	7	3	4	3	3	6	3	1	3	4	3	2	4	3	5	4	4	6	4	3	4	3	1	6	2	3
99	2	6	2	4	4	4	6	6	3	6	5	5	5	5	2	3	7	4	5	5	6	6	5	5	4	4	2	6	3	3
100	4	5	2	4	6	0	4	4	4	3	3	3	4	5	3	4	7	-1	6	5	6	6	5	1	4	4	4	6	1	4
101	6	7	3	5	7	4	6	6	4	6	6	4	6	5	4	5	5	5	6	5	5	5	4	4	4	3	3	5	3	4
102	2	4	0	5	6	2	5	3	2	3	6	5	2	6	1	4	6	0	4	7	6	6	6	4	5	3	4	6	4	5
103	3	4	2	6	5	0	6	5	2	4	5	5	3	3	6	2	3	-1	0	3	2	5	5	2	6	3	1	7	0	3

Table 11.48: Raw Data SVS – Germany (part 2)

no	V31	V32	V33	V34	V35	V36	V37	V38	V39	V40	V41	V42	V43	V44	V45	V46	V47	V48	V49	V50	V51	V52	V53	V54	V55	V56	V57
1	4	2	3	5	3	2	4	3	4	2	4	6	5	3	2	4	2	5	2	5	0	4	5	2	6	2	5
2	5	3	4	5	6	2	4	6	5	5	6	4	3	5	5	4	3	6	4	5	6	4	5	1	7	4	3
3	6	5	6	3	5	4	2	4	3	4	4	6	3	3	6	3	2	4	5	5	0	5	3	4	4	2	4
4	5	0	6	5	4	3	3	3	3	4	5	3	4	6	6	3	3	5	6	5	-1	4	4	5	6	1	3
5	4	1	7	5	5	4	4	5	6	5	5	6	5	4	6	5	4	6	4	5	-1	6	5	4	4	4	4
6	4	-1	6	5	5	2	2	3	3	4	5	7	6	2	6	6	5	6	6	6	3	6	6	4	5	3	5
7	5	2	5	2	4	0	2	5	4	3	4	5	6	3	6	2	2	4	5	4	1	5	5	5	4	4	5
8	6	2	5	4	4	3	2	1	1	3	1	3	4	2	6	2	-1	4	5	4	0	6	2	3	3	3	4
9	5	5	4	5	4	3	2	2	6	6	5	7	5	4	6	6	5	5	5	7	1	5	3	4	6	6	6
10	3	1	6	3	3	3	3	6	3	3	3	4	4	4	6	2	3	3	4	5	0	5	4	3	3	2	4
16	6	3	7	6	7	1	0	3	-1	6	3	7	6	0	5	3	-1	6	6	3	0	6	4	4	6	1	3
17	6	3	4	5	3	2	6	3	2	6	6	7	7	7	7	2	6	7	6	7	0	6	7	1	6	6	3
18	4	3	3	4	7	2	1	3	2	1	4	5	5	6	6	1	2	6	7	6	2	5	2	6	5	3	5
19	5	7	3	3	2	1	2	4	4	5	5	6	2	3	3	3	6	3	6	-1	5	4	5	6	3	5	2
20	4	0	5	2	6	2	3	2	4	4	3	7	3	2	5	4	2	3	5	6	-1	3	4	5	4	3	4
21	4	3	3	4	7	2	1	3	2	1	4	5	5	6	6	1	2	6	7	6	2	5	2	6	5	3	5
22	6	1	2	4	7	2	2	3	2	2	3	2	1	-1	6	2	2	3	4	3	0	6	6	4	4	3	2
23	6	1	4	7	7	2	4	4	2	2	7	7	7	-1	7	2	5	6	2	7	0	4	2	3	7	5	6
24	4	1	5	4	6	3	2	3	2	4	3	5	5	1	6	3	1	5	7	4	3	6	5	6	4	4	3
25	6	1	6	4	6	2	4	5	4	5	5	7	6	-1	6	3	4	5	6	6	0	5	5	2	5	4	6
26	4	-1	7	3	4	0	3	0	6	4	3	3	6	0	6	6	0	6	5	4	0	6	4	1	4	5	3
27	6	0	7	3	3	1	2	3	3	3	5	4	4	2	5	5	5	5	4	6	0	6	4	4	5	2	4
28	6	3	6	2	3	2	4	2	2	1	4	5	5	2	4	2	1	6	4	5	0	5	3	2	4	2	3
29	6	0	6	5	5	4	6	3	4	2	5	6	5	4	4	3	1	5	3	6	2	5	7	5	6	4	5
30	4	2	6	4	5	1	3	3	1	2	3	4	5	2	2	2	-1	5	4	4	1	3	4	4	3	2	2
31	6	3	5	4	6	2	2	2	3	3	5	4	4	3	6	3	3	6	4	6	0	5	5	3	5	3	5
32	5	4	6	6	2	3	5	3	5	6	6	5	6	6	5	6	5	6	6	6	3	5	5	4	5	6	4
33	6	5	5	4	2	0	3	6	2	6	3	6	6	3	5	6	5	5	6	7	4	5	6	6	5	4	6
34	5	-1	6	6	7	-1	-1	2	2	4	6	7	7	2	7	3	-1	7	6	7	1	6	5	6	7	5	6

no	V31	V32	V33	V34	V35	V36	V37	V38	V39	V40	V41	V42	V43	V44	V45	V46	V47	V48	V49	V50	V51	V52	V53	V54	V55	V56	V57
35	4	3	3	4	7	2	1	3	2	1	4	5	5	6	6	1	2	6	7	6	2	5	2	6	5	3	5
36	5	5	6	5	5	4	4	5	2	4	6	6	7	2	5	4	0	6	5	5	-1	6	3	3	4	3	4
37	1	0	3	2	3	2	-1	5	3	5	3	7	3	2	5	6	3	6	3	6	2	3	3	4	5	5	4
38	5	3	5	5	6	5	1	5	3	5	3	7	3	2	5	2	3	5	6	5	-1	5	3	3	4	4	2
39	6	-1	5	5	6	2	2	5	2	4	4	6	4	2	5	1	1	5	3	3	0	4	6	2	5	2	3
40	5	0	6	2	4	4	5	4	2	2	4	6	3	2	6	-1	1	5	6	6	1	4	7	5	3	3	4
41	2	1	4	5	5	1	2	5	2	3	4	7	3	5	4	2	2	5	5	5	3	5	4	4	5	2	4
42	2	2	5	4	6	5	4	3	5	2	6	6	6	-1	7	3	3	3	6	6	2	7	7	2	5	2	4
43	3	1	5	4	3	1	-1	3	2	3	4	6	4	3	3	2	3	4	4	4	3	5	3	3	4	3	4
44	4	3	5	5	5	3	5	4	3	4	5	6	5	3	5	1	2	5	5	7	-1	5	5	4	4	3	3
45	1	1	5	3	3	0	0	0	0	2	3	4	2	0	1	0	-1	5	1	3	0	6	2	1	3	1	1
46	3	1	6	2	5	2	1	3	1	3	3	7	5	2	6	5	3	5	4	6	0	5	5	4	6	5	6
47	2	4	5	5	5	2	0	4	0	2	3	6	5	7	5	1	2	3	5	2	0	5	4	3	3	3	3
48	1	2	4	4	5	5	4	6	1	5	6	6	5	5	6	2	3	5	7	6	2	4	5	5	5	3	5
49	4	0	6	4	5	2	2	5	1	3	5	7	5	-1	6	4	4	5	5	5	1	6	6	5	6	3	5
50	4	3	6	4	5	4	4	3	2	4	4	7	4	5	6	4	4	5	5	3	1	6	4	5	5	6	4
51	3	4	4	3	2	0	-1	1	2	3	4	5	7	2	2	1	1	4	3	3	0	3	4	2	5	1	3
52	6	0	5	2	5	2	2	2	4	6	4	6	4	1	6	2	5	7	5	6	0	5	6	3	4	2	6
76	5	1	5	5	6	2	5	5	4	6	5	7	6	6	6	3	3	5	6	5	0	6	6	5	6	6	5
77	4	1	6	3	4	1	2	2	4	5	3	7	4	3	3	4	3	5	3	5	1	3	3	3	5	2	4
78	6	2	3	5	3	2	1	2	1	4	5	7	6	4	6	3	2	3	4	4	1	3	3	3	4	1	3
79	4	6	3	6	3	6	5	5	5	5	5	6	5	4	6	5	4	6	6	6	-1	6	6	6	5	5	5
80	5	5	5	5	5	5	5	5	2	6	7	6	5	6	6	3	2	3	5	6	6	6	6	6	6	5	7
81	5	-1	7	6	5	0	6	0	4	3	3	6	6	6	6	3	4	6	3	4	0	6	5	3	5	2	4
82	7	7	4	7	7	7	7	0	3	7	4	2	3	7	-1	2	4	7	7	4	7	7	6	5	-1	-1	5
83	3	4	4	3	6	5	4	5	2	3	6	6	3	2	6	3	2	3	4	3	0	3	4	4	3	2	5
84	6	3	5	5	5	2	5	3	3	5	4	7	4	2	5	3	4	3	3	6	-1	5	2	3	5	4	4
85	3	5	4	1	3	7	3	3	5	1	3	6	6	2	3	2	4	7	4	7	1	2	7	5	2	7	3
86	3	7	5	4	6	1	2	3	2	3	3	4	5	0	6	3	3	5	4	3	1	5	4	4	5	3	3
87	-1	0	6	2	5	3	1	3	0	4	2	3	4	2	6	2	3	5	6	3	7	5	3	5	2	2	3
88	1	2	7	3	2	3	0	3	4	6	3	5	5	4	3	6	7	1	1	4	5	2	2	7	-1	-1	5
89	6	2	6	4	5	2	2	2	0	2	6	7	5	4	6	0	2	4	5	6	3	5	5	5	6	3	6
90	4	3	6	6	5	3	3	3	4	5	6	7	5	5	6	4	3	5	4	4	2	4	5	4	5	4	4
91	5	3	5	4	3	3	2	2	3	5	6	6	5	3	4	3	3	6	4	5	0	5	3	5	5	4	4
92	4	3	4	4	5	3	2	4	3	4	5	4	4	5	6	3	4	5	6	5	1	5	2	4	4	3	4
93	6	5	5	4	2	0	3	6	2	6	3	6	6	3	5	5	4	5	6	7	3	5	6	6	5	4	6
94	3	1	6	3	3	3	3	6	3	3	3	4	4	4	6	2	3	3	4	5	0	5	4	3	3	2	4
95	5	2	5	6	2	2	1	3	4	3	3	7	5	-1	6	3	2	6	3	1	0	4	6	6	7	1	1
96	6	3	5	6	5	3	1	3	4	4	5	7	6	4	4	3	3	5	4	5	0	5	4	3	5	2	6

no	V31	V32	V33	V34	V35	V36	V37	V38	V39	V40	V41	V42	V43	V44	V45	V46	V47	V48	V49	V50	V51	V52	V53	V54	V55	V56	V57
97	7	5	4	4	5	1	2	4	2	5	6	6	5	4	6	5	2	6	5	5	-1	6	4	2	6	4	2
98	5	1	5	5	6	2	5	5	4	6	5	7	6	6	6	3	3	5	6	5	0	6	6	5	6	6	5
99	3	3	3	3	4	2	2	2	2	3	4	7	5	4	4	4	3	4	5	6	3	5	3	3	4	3	4
100	3	1	6	5	5	2	2	2	3	4	5	6	6	5	7	5	5	5	5	5	-1	6	5	3	5	4	5
101	4	4	6	4	6	4	3	4	3	5	4	7	4	4	5	4	5	5	5	6	3	4	4	6	5	4	4
102	5	2	5	4	3	0	5	4	5	1	3	6	4	2	6	3	4	5	5	6	-1	5	4	3	4	2	5
103	5	3	5	2	1	3	1	5	2	2	4	6	4	3	6	2	1	5	6	7	-1	5	0	4	5	6	0

Table 11.49: Centred Scores SVS – Germany

no.	Conformity	Tradition	Benevolence	Universalism	Self-Direction	Stimulation	Hedonism	Achievement	Power	Security
1	-1,434	-1,484	-1,084	-0,434	0,516	1,316	0,649	1,316	1,066	-0,084
2	0,347	-0,404	-0,804	0,472	0,397	0,263	-0,070	0,597	-0,154	-0,604
3	-1,105	-1,305	1,095	0,395	0,295	-1,105	0,561	-0,855	-0,855	0,095
4	-0,118	-1,168	2,032	-0,868	1,232	0,298	0,298	1,132	-0,868	-0,368
5	0,136	-2,014	0,786	-0,239	-0,014	-0,281	-0,281	0,386	-0,114	0,186
6	-0,224	-2,474	1,126	-0,349	0,926	-0,140	0,526	0,276	-0,224	-0,874
7	-0,092	-1,842	1,358	0,158	0,958	-1,175	0,158	0,158	-2,592	0,158
8	-1,447	-1,147	2,053	0,178	0,453	0,053	1,053	0,053	-1,947	-0,347
9	0,781	-1,119	0,081	-1,219	0,081	-1,053	1,947	0,781	1,031	0,481
10	-0,132	-1,432	1,168	0,618	-0,432	0,368	1,368	-0,382	-1,632	-0,232
16	0,294	-2,656	2,144	0,044	0,544	-1,123	-0,456	0,794	-2,456	-1,456
17	0,671	-2,179	0,221	-2,079	1,621	1,754	1,088	0,421	0,671	0,221
18	-1,233	-0,983	1,418	0,518	0,018	-0,649	1,351	0,018	-1,983	0,218
19	1,689	0,239	0,839	-0,311	-0,161	-0,228	-2,228	-0,561	-0,561	0,639
20	-1,079	-2,979	1,021	-0,454	0,821	0,754	1,088	-0,329	-0,329	0,221
21	-1,233	-0,983	1,418	0,518	0,018	-0,649	1,351	0,018	-1,983	0,218
22	-0,018	-2,218	1,383	0,608	2,183	-0,684	-0,684	-0,268	-1,518	-0,018
23	0,004	-3,646	-0,246	-0,871	0,554	1,754	2,421	1,504	-3,246	0,354
24	-0,737	-1,537	2,263	0,513	0,463	-0,404	-0,404	0,013	-2,487	-0,337
25	-0,088	-3,088	0,912	0,162	0,712	-0,421	1,579	0,662	-1,838	-0,088
26	-1,364	-3,614	1,386	-2,114	0,786	1,386	0,719	1,136	2,636	-0,414
27	0,386	-2,614	1,586	-0,489	1,386	-0,947	1,053	0,136	0,136	-0,614
28	-0,996	-1,846	0,954	-0,871	0,954	1,088	1,088	0,004	-0,996	-1,446
29	-1,408	-1,758	0,442	-0,908	1,442	1,842	0,842	0,842	-0,408	-1,158
30	-1,974	-2,474	0,326	0,151	0,126	-0,140	-0,140	-0,224	-1,474	1,126
31	-0,483	-2,183	0,618	-0,608	1,418	-0,649	1,018	0,018	-1,233	0,418
32	0,610	-0,740	0,060	-1,515	0,260	0,526	0,193	0,360	0,610	0,460
33	0,855	-1,295	0,505	-0,020	0,305	-0,561	1,439	-0,645	-0,645	0,305
34	-1,518	-3,618	2,183	-0,018	0,583	-1,018	1,316	1,483	-2,018	0,383
35	-1,233	-0,983	1,418	0,518	0,018	-0,649	1,351	0,018	-1,983	0,218
36	-1,605	-1,705	0,895	-0,105	0,695	0,228	0,561	0,395	-1,605	-0,105
37	-0,496	-0,846	0,354	-0,496	-0,046	-2,246	2,088	0,004	0,004	0,354
38	0,197	-1,653	0,747	0,947	0,147	-1,386	-0,719	-0,303	-2,303	0,947
39	-0,504	-2,754	0,046	0,746	1,446	0,579	-0,421	0,246	-2,754	-0,354
40	-2,597	-1,797	1,804	-0,222	1,204	0,404	2,070	-1,097	-2,597	0,004
41	-0,132	-0,832	0,768	-0,507	-0,832	-0,298	1,035	0,118	-0,632	0,168
42	-0,338	-2,288	1,312	0,287	0,912	1,579	0,246	0,912	-1,338	-2,088
43	0,053	-1,347	1,053	-0,322	0,453	-1,947	1,053	0,553	-2,197	-0,147
44	-0,531	-2,281	0,519	-0,031	0,719	1,053	0,719	-0,031	-2,281	0,519
45	-0,680	-1,730	0,870	-1,055	0,470	-0,597	0,404	0,070	-1,680	0,870
46	-0,219	-2,319	1,281	-0,219	0,481	-1,053	1,947	-0,219	-1,469	0,481
47	-0,768	-0,218	1,583	0,733	-0,018	-2,351	-0,684	0,233	-2,518	0,183
48	0,114	-0,586	0,814	0,989	0,214	0,281	0,614	-0,636	-2,886	-0,786
49	-0,605	-3,705	1,495	0,395	1,495	-0,105	0,561	-0,105	-2,105	-0,505
50	0,215	-1,035	1,565	-0,660	-0,435	-0,368	-0,702	-0,285	-0,785	0,765
51	-0,557	-1,807	-0,007	-0,432	0,793	-0,474	0,526	1,443	-1,057	-0,207
52	0,623	-2,477	0,923	-2,002	1,523	0,123	2,123	-0,377	-0,877	-0,477
76	-0,123	-1,723	1,477	-0,498	0,877	-0,123	0,544	1,127	-3,123	0,077
77	0,417	-1,533	0,267	-1,208	-0,133	-0,333	1,000	0,667	-0,083	0,667
78	-0,513	-1,063	0,537	-0,638	0,937	-0,597	-0,263	0,737	-1,763	-0,063

no.	Conformity	Tradition	Benevolence	Universalism	Self-Direction	Stimulation	Hedonism	Achievement	Power	Security
79	-0,325	-1,425	0,575	-0,325	0,375	0,842	0,509	0,425	-1,075	0,175
80	0,088	0,488	0,688	-0,787	0,488	0,088	1,421	-0,412	-3,162	-0,112
81	0,662	-2,088	0,912	-1,588	0,912	1,579	0,246	1,162	-0,838	-1,888
82	-1,105	1,895	0,295	0,645	-0,105	0,895	1,228	-1,105	0,145	-1,705
83	-1,061	-1,161	0,639	0,439	0,839	0,772	0,105	-0,811	-1,311	-1,161
84	1,018	-1,983	0,218	-0,483	0,418	2,018	1,018	0,268	-1,733	-0,183
85	-1,829	-0,379	0,021	0,796	1,221	-0,246	0,421	-0,079	-1,329	0,621
86	0,469	-1,081	1,519	0,344	0,319	-0,614	-0,281	0,719	-1,531	-0,681
87	-0,105	-0,305	2,495	1,020	-1,105	-2,105	-0,105	-1,105	-1,855	-0,705
88	1,434	-0,116	0,684	-0,066	-0,116	-0,316	0,351	-0,566	0,434	-0,916
89	-0,877	-1,277	1,523	-1,002	1,123	0,456	2,123	-0,127	-2,627	-1,077
90	0,132	-1,368	0,432	-0,868	0,832	-0,368	-0,035	0,632	-0,868	-0,768
91	-0,285	-2,235	0,565	-1,285	0,165	0,298	0,965	0,215	0,965	0,365
92	-0,610	-0,660	1,140	0,140	-0,060	0,140	0,474	-0,110	-1,610	-0,460
93	0,763	-1,337	0,663	0,013	0,263	-0,737	1,597	-0,487	-0,737	0,263
94	-0,132	-1,432	1,168	0,618	-0,432	0,368	1,368	-0,382	-1,632	-0,232
95	-0,434	-3,084	1,116	-1,059	0,716	0,649	-1,351	1,816	-0,684	0,316
96	-0,575	-1,425	0,375	-1,075	0,775	-0,491	1,175	1,425	-0,825	-0,625
97	0,838	-2,112	0,688	-0,537	1,488	-0,579	0,088	0,338	0,588	0,088
98	-0,123	-1,723	1,477	-0,498	0,877	-0,123	0,544	1,127	-3,123	0,077
99	-0,053	-0,853	-0,053	-0,303	-0,653	-1,053	0,614	-0,553	-0,803	0,347
100	0,215	-2,835	1,365	-0,535	0,565	-0,702	0,632	0,715	-0,535	0,165
101	0,566	-0,684	0,516	-0,309	0,116	-1,018	0,316	-0,684	-1,184	0,316
102	0,605	-3,295	0,905	-0,020	0,505	0,105	1,439	0,355	-0,895	-1,095
103	-0,618	-1,968	1,832	-0,868	-0,168	-0,368	0,965	-0,118	-0,868	1,632

11.8.3 User-generated insights

Table 11.50: Interviews - China

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
1	no need for an ivoice when shopping online	opinion	context	domain				x			1	1	1
1	chatting online is OK; phone is better	opinion	product	usp				x	x		1	2	2
1	never tried online-shopping bevor; doubts payment security	experience	context	domain	x						1	1	1
1	likes colourful websites (e.g. sohu.com)	opinion	product	design			x				1	1	2
1	prefers search and categorization websites (e.g. baidu.com)	opinion	context	competitor		x				x	1	1	1
1	group-bargaining appreciated	opinion	context	user	x						1	2	1
1	mobile access to the internet is not good	opinion	context	infrastructure	x			x			1	1	1
1	no need for online-shopping	opinion	context	user	x						1	0	1
1	never payed online	experience	context	user	x						1	1	1
1	once a good website found he/she will stick to that	opinion	context	user	x						1	1	1
1	expects mobile to pay online to be a good solution	opinion	product	function				x			1	2	1
1	first judge the product and then the seller	action	context	user				x		x	2	2	1
1	fist checks comments of other users then checks grades of the seller	opinion	context	user				x		x	1	2	2
1	delivery should be within one day	opinion	context	infrastructure	x						1	0	2
1	comments about the seller important	opinion	product	function				x		x	1	2	1
1	before buying software online; he/she needs to get to know the software's function	opinion	product	usp				x		x	1	1	1
2	invoice requested	opinion	product	function				x			1	1	1
2	would appreciate the possibility to leave a message about the seller or product	opinion	product	function				x	x		1	2	1
2	prefers light purple colour	opinion	product	design			x				1	1	1
2	care more about the functionality of the website than about the looks	opinion	product	usp			x	x			1	1	1
2	baidu.com good search engine	opinion	context	competitor		x		x		x	1	1	1
2	uses the internet to search information; watch movies	action	context	user	x						1	1	2
2	never tried online-shopping bevor; should be OK	experience	context	user	x						1	0	1
2	payment after delivery	opinion	context	domain	x						1	1	1
2	payment through mobile is really good	opinion	product	function				x			1	2	1
2	does not want to reveal personal information to the seller	opinion	context	user	x					x	1	2	1
2	even though seller comments are bad, products could be interesting	opinion	context	domain	x					x	1	2	1
2	recommendation of friends very important	opinion	product	function				x	x	x	1	2	1
2	would like to see the seller on video to make sure he/she is real	opinion	product	function				x	x		2	2	2
3	message board is a good function	opinion	product	function				x	x		1	2	1

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
3	not free downloading website: should guarantee the quality, downloading speed	opinion	product	usp				x			1	2	1
3	likes hao123.com; different categories of websites; trustworthy	opinion	product	function		x	x	x			1	1	1
3	likes hao123.com; different categories of websites; trustworthy	opinion	context	competitor	x	x					1	1	1
3	membership-based selling approach appreciated	opinion	product	usp	x			x			1	1	1
3	group-shopping time-consuming for preparation	opinion	product	usp				x	x		1	2	1
3	brand is very important for buying decision	opinion	context	domain	x						1	1	1
3	buyers will chose different sellers according to price, product representation, band etc.	opinion	context	user	x						0	0	1
3	using PC for chatting	action	context	user	x						1	1	2
3	transfering files through the internet	action	context	domain	x						1	1	2
3	some friends access the internet via their mobile; interesting, but still too slow; will try it in future	experience	context	infrastructure	x			x			2	1	1
3	bought bag online with support by friend; payment after delivery	experience	context	domain	x						1	1	1
3	uses online-shopping website to check price - not to buy online	action	context	user	x						1	1	2
3	usually trusts seller in the beginning (positive attitude towards seller)	action	context	user	x						1	1	1
3	paypal (as used with taobao) is very good	opinion	product	function				x			1	2	1
3	information requested: company, product, technology, seller info	opinion	product	usp				x		x	1	2	2
3	representation: pictures, forum	opinion	product	function				x	x		1	2	1
3	personal information of the seller not a must-have; information about the product more important	opinion	context	domain						x	1	2	2
3	trusts the products that friends recommend	action	context	user	x			x		x	1	2	1
3	website to be trustworthy, must work dependable and give the price directly	opinion	product	usp	x			x		x	0	1	1
3	sample-clips when selling videos online requested	opinion	product	function				x		x	1	2	1
3	seller grades not the most important factor in buying-decision	opinion	context	domain						x	2	1	1
3	some group-members in group-shopping might be friends of the seller; could reduce bargain-power	opinion	context	domain	x						2	1	1
3	sellers should focus on one type of products or brand	opinion	context	domain	x						1	1	0
3	time for delivery in same city: 1-2 days, different city: ~1 week	opinion	context	infrastructure	x						1	0	2
3	prefers to contact sellers via MSN, QQ and mobile	action	product	function				x	x		1	2	2
4	bargaining important when online-shopping	opinion	context	domain	x				x		1	1	1
4	no need for bargaining is good	opinion	context	user	x						1	1	0
4	prefers contact by phone; more convenient	action	context	user					x		1	2	2

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
4	direct contact to the seller appreciated	action	product	function				x	x		1	2	1
4	group-shopping good idea if communication with other buyers is convenient	opinion	product	function					x		1	1	1
4	contact with other buyers necessary to make full use of group-shopping	action	product	function				x	x		1	1	1
4	buyers should make their needs clear	action	product	function				x	x		1	1	0
4	safty issues of website important	opinion	context	domain	x						1	2	1
4	slow downloading speed very disapointing	opinion	context	user	x						1	2	1
4	funcionality important	opinion	product	function				x			1	1	0
4	some friends made recording by themselves using some software	experience	context	user	x						2	2	1
4	baidu.com and tudou.com are good websites	opinion	context	competitor		x	x	x			1	1	1
4	group-shopping good idea if communication with other buyers is convenient	opinion	context	user	x						1	2	1
4	uses internet in internet-cafes	action	context	infrastructure	x						1	1	1
4	downloading speed crucial, but influenced by many factors	opinion	context	infrastructure				x			1	1	0
4	online-shopping expected to be cheaper	opinion	context	domain	x						1	1	2
4	used the mobile to access the web before; not sure about pricing, expected to be expensive; computer better	experience	context	user	x						2	1	1
4	never tried online-shopping before; will use it if it is safe	experience	context	domain	x						1	0	1
4	would sell his/her used products online he/she does not need anymore (e.g. ebay, taobao)	action	context	user	x						1	1	1
4	payment after delivery	opinion	context	domain	x						1	1	1
4	payment with bank-card appreciated	opinion	product	function				x			1	2	1
4	face-to-face payment appreciated	opinion	product	function	x			x	x		2	2	1
4	no pop-up ads (esp. Porn)	opinion	product	function				x	x		1	1	1
4	recommendation of friends very important	opinion	product	function				x		x	1	2	1
4	baidu.com good search engine	opinion	context	competitor		x	x	x			1	1	1
4	search function for the website appreciated	opinion	product	function				x			0	1	1
4	seller-grade very important	opinion	product	function						x	1	2	1
4	seller-information important	opinion	product	usp						x	0	1	1
4	seller information should comprise: since when seller is active; what was soled before; let buyers get to know the seller	opinion	product	usp						x	2	2	2
4	delivery to happen between 1 day and 1 week	opinion	context	infrastructure	x						1	0	2
4	credibility, price and payment possibilities of product should be transparent	opinion	product	usp				x		x	1	2	1
4	trial to test website might be appreciated by some users	opinion	product	function				x		x	1	2	1
4	use of existing and popular communication chanels (e.g.QQ) appreciated	action	product	function				x	x		1	2	2

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
4	product introductions should make clear differences between products	opinion	product	usp				x		x	1	1	0
4	sellers need to represent the product in a way that makes clear price, quality and specialities of product	opinion	product	usp						x	1	1	1
4	if he/she would be seller he/she would provide information on configuration, price and location of product	opinion	product	usp						x	1	2	2
17	doubts good product quality	opinion	context	domain	x						1	0	0
17	comments about the seller very important; but could be faked by some of the seller's friends	opinion	context	domain	x						2	1	1
17	important to receive real information about the seller through the website	opinion	product	usp	x			x		x	1	1	1
17	website should not be too colourful and ads should be reduced	opinion	product	design			x				0	1	1
17	appreciates websites with good functionality in specialized areas	opinion	product	function				x			0	1	0
17	xiaonei.com good website as it provides the oppotunity to personalize the interface	opinion	context	competitor	x	x	x	x			2	1	2
17	might be interested in organizing a group shopping in case he/she wants to purchase a product	action	context	user	x						1	2	1
17	if he/she really wants the product the money is not most important	opinion	context	user	x						1	1	1
17	big companie's online-shops and/or products seem more trust-worthy	opinion	context	domain	x						1	1	1
17	never tried online-shopping before	experience	context	user	x						1	0	1
17	in terms of payment: credit card, bank card and online-bank should be OK	opinion	product	function	x			x			1	2	1
17	xiaonei.com good website as it provides the oppotunity to personalize the interface	opinion	context	user			x	x			2	2	1
17	website should not be too colourful and ads should be reduced	opinion	product	design			x	x			1	2	1
17	recommendation of friends very important	opinion	product	function				x		x	1	2	1
17	movies should be represented by some clips and/or pictures	opinion	product	function				x		x	1	2	1
17	software should be clearly described in terms of ist functionality	opinion	product	function				x		x	1	1	0
17	songs could be represened by their lyrics	opinion	product	function				x		x	1	1	1
17	comments about the seller very important; but could be faked by some of the seller's friends	opinion	product	usp				x	x	x	2	2	1
17	requests a trial for testing the product or the possibility to withdrawl his/her offer; especially for digital products	opinion	product	function	x			x			1	2	2
17	service and history of onlin-shop determine credebility	opinion	context	domain	x					x	1	1	1
17	users should be able to freele publicise their opinion about a seller/product	action	product	function				x	x		0	1	1
17	communication through video appreciated	opinion	product	function				x	x		1	2	1

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
25	judges credibility of most online-sellers as rather low based on experiences made by friends and the news	opinion	context	domain	x						2	1	1
25	prefers blue colours	opinion	product	design			x				1	1	1
25	many functions on the website appreaciated	opinion	product	usp				x			1	1	1
25	sina.com and sohu.com good websites; lots of information	opinion	context	competitor		x	x			x	1	1	1
25	group-shopping good to save money	opinion	context	domain				x	x		1	2	1
25	group-shopping better to be done with friends	opinion	context	user	x						2	2	1
25	chooses seller based on product price, seller-grades and ranking	action	context	user	x			x		x	1	1	2
25	sales service of seller is key issue in buying decision	opinion	context	domain	x					x	2	2	0
25	using web for games and news	action	context	domain	x						1	1	2
25	if surfing mobile will become cheaper he/she will try it	action	context	infrastructure	x			x			2	1	1
25	never tried shopping online; does not like it	experience	context	user	x						1	0	1
25	trusts online-bank; however not 100%	opinion	context	domain	x						1	1	1
25	ads should be minimized on the website; especially pop-ups	opinion	product	usp			x	x			1	1	1
25	wants to talk to seller face-to-face	action	product	function				x	x		1	2	1
25	product representation should be professional and general (objective)	opinion	product	usp			x	x		x	0	0	0
25	product representation should cover ist detailed parameters	opinion	product	function						x	0	0	0
27	chatting online better than emails	opinion	context	domain				x	x		1	2	1
27	credibility of sellers and buyers important	opinion	context	domain	x			x			1	1	1
27	credibility of seller particularly important	opinion	context	domain	x						1	1	1
27	google.com and taobao.com good websites	opinion	context	competitor		x					1	1	1
27	function to compare the performance of different products appreciated	opinion	product	function				x		x	2	2	1
27	function to compare different sellers appreciated	opinion	product	function				x		x	2	2	1
27	good experiences with group-shopping made	experience	context	domain	x						2	2	1
27	prefers group of friends	opinion	context	user	x			x	x		2	2	1
27	only 4-5 people in one group better	opinion	context	domain				x	x		2	2	1
27	online magazines good	opinion	context	user	x					x	1	0	0
27	mobile access to the internet not convenient; screen is too small	opinion	context	infrastructure	x			x			1	1	1
27	mobile payment seems convenient; security issues need to be observed	opinion	product	function				x			1	2	1
27	online-shopping seems convenient	opinion	context	user	x			x			0	1	0
27	for people visiting the website without particular buying intention, recommendation useful	opinion	product	function				x		x	1	1	1
27	singers just to put song in website not sufficient; advertisement important	opinion	context	domain				x	x	x	0	1	1
27	seller ratings to be differntiated into different rating categories										2	2	2

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
27	recommendation of friends very important	opinion	product	function				x	x	x	1	2	1
27	time to delivery will influence the acceptance of the website	opinion	context	domain	x						2	0	1
27	product performance to be part of the product recommendation	opinion	product	usp						x	1	1	1
28	after-service (especiall in caseof expensive products) very important	opinion	context	domain	x						1	0	0
28	seller does not need buyer information	opinion	context	domain	x					x	1	2	1
28	contacting seller through phone appreciated; faster	action	product	function				x	x		1	2	2
28	message board is a good function	opinion	product	function				x	x	x	1	2	1
28	credibility is crucial; especially for small or young websites	opinion	context	domain	x						1	0	1
28	governemnt website perceived as old-fashioned	opinion	product	design			x				2	1	1
28	group-shopping appreciated; could save some money	opinion	context	user	x			x	x		1	2	1
28	reputation of website important; trial appreciated	opinion	context	domain	x						1	2	1
28	price and quality are key-factors in buying decision	opinion	context	domain	x					x	1	1	1
28	(intuitive) design of website important	opinion	product	design			x	x			0	2	0
28	first clients visiting the website important	opinion	context	domain	x						1	1	1
28	accessing the web through mobile is not good, screen is too small	opinion	context	infrastructure	x			x			1	1	1
28	experienced in online-shopping	experience	context	user	x						1	0	1
28	sellers want to earn money; buyer care more about after-service	opinion	context	domain	x						1	0	1
28	payment after delivery	opinion	context	domain	x						1	1	1
28	worried about paying through mobile-bill; ISP could charg extra	opinion	context	domain	x						2	1	1
28	recommendation of friends very important	opinion	product	function				x	x	x	1	2	1
28	seller-grades are good references	opinion	product	function				x		x	0	1	1
28	seller's selling experiences not so important	opinion	context	domain						x	1	1	1
28	list of seller's products appreciated	opinion	product	function				x		x	0	2	1
28	delivery to happen between 2 and 3 days	opinion	context	infrastructure	x						1	0	2
28	reputation of website important; trial appreciated	opinion	product	function	x			x		x	1	2	1
28	comment of buyers very important; anonymous comments appreciated	opinion	product	function				x		x	1	1	1
28	website should list product qualities	opinion	product	function				x		x	0	1	0
33	appreciates bargaining online	action	context	user	x			x	x		1	1	1
33	prefers blue colours	opinion	product	design			x				1	1	1
33	hao123.com, baidu.com, google.com good websites	opinion	context	competitor		x					1	1	1
33	taobao.com is a good example; but should provide more pictures of the product	opinion	product	competitor		x				x	1	1	1

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
33	prefers group shopping with friends, better to bargain and saves delivery costs	action	context	domain	x			x	x		2	2	1
33	prefers group shopping with friends, better to bargain and saves delivery costs	opinion	context	user	x						2	2	1
33	uses the internet for chatting, shopping	action	context	user	x						1	1	2
33	does not use the mobile to access the internet	action	context	domain	x			x			1	0	1
33	does not like paying with mobile; not convenient	opinion	product	function	x			x			1	2	1
33	recommendation of friends very important	opinion	product	function				x	x	x	1	2	1
33	sellers with good grades seem more trustworthy	opinion	context	domain				x		x	1	1	1
33	boys prefer shopping online	opinion	product	usp	x						0	0	0
33	sellers with good selling products seem more trustworthy	opinion	context	domain				x		x	1	1	1
33	likes rating sellers; if product is good he/she gives good grades	opinion	context	user				x		x	1	0	1
33	when buying records or CDs online trial/demo expected	opinion	product	function				x		x	1	2	1
33	detailed product description and prictures from different ankels appreciated	opinion	product	function				x		x	0	1	1
50	for sellers mainly information about the order important	opinion	context	domain						x	1	2	2
50	online-forums to facilitate group communication; email not efficient for that purpose	opinion	product	function				x	x		1	2	2
50	prefers blue colours	opinion	product	design			x				1	1	1
50	xiaonei.com good website; good search function	opinion	context	competitor		x		x			1	1	1
50	group-shopping appreciated	opinion	context	user	x						1	2	1
50	price and web-service reputation driving factors of online-shopping	opinion	context	domain	x						1	1	1
50	some online-forums might be suitable to provide shopping opportunities	opinion	context	competitor	x						1	1	1
50	payment after delivery	opinion	context	domain	x						1	1	1
50	advertisement and spread of word important for website; website should allow buyers and sellers to become active in that	opinion	product	usp				x	x		2	2	1
50	rating of seller might determin place of seller in list after searching, ref. Taobao.com	opinion	product	function				x			2	2	2
50	product trials and product related information appreciated	opinion	product	function	x			x		x	1	2	1
50	product introduction with pictures and clear product features requested	opinion	product	usp				x		x	0	1	1

Table 11.51: Puzzle Interview - China

User	role	scenario	Idea	category	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
6	seller	A	ordering as a very important function	idea	opinion	product	function				x			0	1	1
6	seller	A	payment methodologies to be introduced when registering	idea	opinion	product	usp				x		x	2	2	1
6	seller	A	offer possibility for user to withdraw order	idea	opinion	product	function				x			1	1	1
6	seller	A	raring important for judging credibility	idea	opinion	context	domain	x						1	2	1
6	seller	A	video/audio chanels less important as for communication but very important for product representation	idea	opinion	product	usp				x	x		1	2	1
6	seller	A	online-community to discuss product apreciated	idea	opinion	context	user	x				x		2	2	1
6	seller	A	community/inerst group building	essential feature	opinion	product	function				x			1	2	1
6	seller	A	download	essential feature	opinion	product	function				x			1	2	1
6	seller	A	Email	essential feature	opinion	product	function				x			1	2	1
6	seller	A	friendslist	essential feature	opinion	product	function				x			1	2	1
6	seller	A	pay/vote/buy	essential feature	opinion	product	function				x			1	2	1
6	seller	A	payment methods	essential feature	opinion	product	function				x			1	2	1
6	seller	A	product introduce	essential feature	opinion	product	function				x			1	2	1
6	seller	A	profiles	essential feature	opinion	product	function				x			1	2	1
6	seller	A	ratings	essential feature	opinion	product	function				x			1	2	1
6	seller	A	Recommendation	essential feature	opinion	product	function				x			1	2	1
6	seller	A	search	essential feature	opinion	product	function				x			1	2	1
6	seller	A	Jukebox	important feature	opinion	product	function				x			1	2	1
6	seller	A	Background Music	important feature	opinion	product	function				x			1	2	1
6	seller	A	list view	important feature	opinion	product	function				x			1	2	1
6	seller	A	observed products/items	important feature	opinion	product	function				x			1	2	1
6	seller	A	pinboard	important feature	opinion	product	function				x			1	2	1
6	seller	A	sort list	important feature	opinion	product	function				x			1	2	1
6	seller	A	video stream	important feature	opinion	product	function				x			1	2	1
6	seller	A	Avatar	unimportant feature	opinion	product	function				x			1	2	1
6	seller	A	chat	unimportant feature	opinion	product	function				x			1	2	1

User	role	scenario	Idea	category	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
6	seller	A	invite a friend	unimportant feature	opinion	product	function				x			1	2	1
6	seller	A	podcast	unimportant feature	opinion	product	function				x			1	2	1
6	seller	B	online-community for users to get to know each other apreciated	idea	opinion	context	user	x				x		2	2	1
6	seller	B	chat better communication chanel than email	idea	opinion	context	user					x		1	2	1
6	seller	B	Avatar	essential feature	opinion	product	function				x			1	2	1
6	seller	B	chat	essential feature	opinion	product	function				x			1	2	1
6	seller	B	community/inerst group building	essential feature	opinion	product	function				x			1	2	1
6	seller	B	Email	essential feature	opinion	product	function				x			1	2	1
6	seller	B	list view	essential feature	opinion	product	function				x			1	2	1
6	seller	B	pay/vote/buy	essential feature	opinion	product	function				x			1	2	1
6	seller	B	payment methods	essential feature	opinion	product	function				x			1	2	1
6	seller	B	pinboard	essential feature	opinion	product	function				x			1	2	1
6	seller	B	product introduce	essential feature	opinion	product	function				x			1	2	1
6	seller	B	profiles	essential feature	opinion	product	function				x			1	2	1
6	seller	B	ratings	essential feature	opinion	product	function				x			1	2	1
6	seller	B	Recommendation	essential feature	opinion	product	function				x			1	2	1
6	seller	B	sort list	essential feature	opinion	product	function				x			1	2	1
6	seller	B	Jukebox	important feature	opinion	product	function				x			1	2	1
6	seller	B	Background Music	important feature	opinion	product	function				x			1	2	1
6	seller	B	download	important feature	opinion	product	function				x			1	2	1
6	seller	B	friendslist	important feature	opinion	product	function				x			1	2	1
6	seller	B	invite a friend	important feature	opinion	product	function				x			1	2	1
6	seller	B	observed products/items	important feature	opinion	product	function				x			1	2	1
6	seller	B	podcast	important feature	opinion	product	function				x			1	2	1
6	seller	B	search	important feature	opinion	product	function				x			1	2	1
6	seller	B	video stream	important feature	opinion	product	function				x			1	2	1
13	seller	A	audio/video message of seller to enhance trust-level appreciated	idea	opinion	product	function				x			2	1	1

User	role	scenario	Idea	category	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
13	seller	A	Email	essential feature	opinion	product	function				x			1	2	1
13	seller	A	list view	essential feature	opinion	product	function				x			1	2	1
13	seller	A	profiles	essential feature	opinion	product	function				x			1	2	1
13	seller	A	Jukebox	important feature	opinion	product	function				x			1	2	1
13	seller	A	friendslist	important feature	opinion	product	function				x			1	2	1
13	seller	A	payment methods	important feature	opinion	product	function				x			1	2	1
13	seller	A	search	important feature	opinion	product	function				x			1	2	1
13	seller	A	sort list	important feature	opinion	product	function				x			1	2	1
13	seller	A	video stream	important feature	opinion	product	function				x			1	2	1
13	seller	A	Avatar	unimportant feature	opinion	product	function				x			1	2	1
13	seller	A	Background Music	unimportant feature	opinion	product	function				x			1	2	1
13	seller	A	chat	unimportant feature	opinion	product	function				x			1	2	1
13	seller	A	community/inerst group building	unimportant feature	opinion	product	function				x			1	2	1
13	seller	A	download	unimportant feature	opinion	product	function				x			1	2	1
13	seller	A	invite a friend	unimportant feature	opinion	product	function				x			1	2	1
13	seller	A	observed products/items	unimportant feature	opinion	product	function				x			1	2	1
13	seller	A	pay/vote/buy	unimportant feature	opinion	product	function				x			1	2	1
13	seller	A	pinboard	unimportant feature	opinion	product	function				x			1	2	1
13	seller	A	podcast	unimportant feature	opinion	product	function				x			1	2	1
13	seller	A	product introduce	unimportant feature	opinion	product	function				x			1	2	1
13	seller	A	ratings	unimportant feature	opinion	product	function				x			1	2	1
13	seller	A	Recommendation	unimportant feature	opinion	product	function				x			1	2	1
13	seller	B	positive shopping experience to be enhanced by background music	idea	opinion	product	usp			x	x			1	2	1
13	seller	B	shopping history/list of products bought appreciated	idea	opinion	product	function				x			2	2	1
13	seller	B	Email	essential feature	opinion	product	function				x			1	2	1
13	seller	B	pay/vote/buy	essential feature	opinion	product	function				x			1	2	1
13	seller	B	payment methods	essential feature	opinion	product	function				x			1	2	1
13	seller	B	product introduce	essential feature	opinion	product	function				x			1	2	1

User	role	scenario	Idea	category	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
13	seller	B	Jukebox	unimportant feature	opinion	product	function				x			1	2	1
13	seller	B	Avatar	unimportant feature	opinion	product	function				x			1	2	1
13	seller	B	Background Music	unimportant feature	opinion	product	function				x			1	2	1
13	seller	B	chat	unimportant feature	opinion	product	function				x			1	2	1
13	seller	B	community/inerst group building	unimportant feature	opinion	product	function				x			1	2	1
13	seller	B	download	unimportant feature	opinion	product	function				x			1	2	1
13	seller	B	friendslist	unimportant feature	opinion	product	function				x			1	2	1
13	seller	B	invite a friend	unimportant feature	opinion	product	function				x			1	2	1
13	seller	B	list view	unimportant feature	opinion	product	function				x			1	2	1
13	seller	B	observed products/items	unimportant feature	opinion	product	function				x			1	2	1
13	seller	B	pinboard	unimportant feature	opinion	product	function				x			1	2	1
13	seller	B	podcast	unimportant feature	opinion	product	function				x			1	2	1
13	seller	B	profiles	unimportant feature	opinion	product	function				x			1	2	1
13	seller	B	ratings	unimportant feature	opinion	product	function				x			1	2	1
13	seller	B	Recommendation	unimportant feature	opinion	product	function				x			1	2	1
13	seller	B	search	unimportant feature	opinion	product	function				x			1	2	1
13	seller	B	sort list	unimportant feature	opinion	product	function				x			1	2	1
13	seller	B	video stream	unimportant feature	opinion	product	function				x			1	2	1
16	buyer	A	service to offer some hotproducts upon registration (incentive)	idea	opinion	context	domain	x			x			2	2	1
16	buyer	A	support/help-function in registration helpful	idea	opinion	product	function				x		x	1	1	1
16	buyer	A	Avatar	essential feature	opinion	product	function				x			1	2	1
16	buyer	A	Email	essential feature	opinion	product	function				x			1	2	1
16	buyer	A	payment methods	essential feature	opinion	product	function				x			1	2	1
16	buyer	A	profiles	essential feature	opinion	product	function				x			1	2	1
16	buyer	A	sort list	essential feature	opinion	product	function				x			1	2	1
16	buyer	A	Jukebox	important feature	opinion	product	function				x			1	2	1
16	buyer	A	Background Music	important feature	opinion	product	function				x			1	2	1
16	buyer	A	list view	important feature	opinion	product	function				x			1	2	1

User	role	scenario	Idea	category	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
16	buyer	A	Recommendation	important feature	opinion	product	function				x			1	2	1
16	buyer	A	chat	unimportant feature	opinion	product	function				x			1	2	1
16	buyer	A	community/inerst group building	unimportant feature	opinion	product	function				x			1	2	1
16	buyer	A	download	unimportant feature	opinion	product	function				x			1	2	1
16	buyer	A	friendslist	unimportant feature	opinion	product	function				x			1	2	1
16	buyer	A	invite a friend	unimportant feature	opinion	product	function				x			1	2	1
16	buyer	A	observed products/items	unimportant feature	opinion	product	function				x			1	2	1
16	buyer	A	pay/vote/buy	unimportant feature	opinion	product	function				x			1	2	1
16	buyer	A	pinboard	unimportant feature	opinion	product	function				x			1	2	1
16	buyer	A	podcast	unimportant feature	opinion	product	function				x			1	2	1
16	buyer	A	product introduce	unimportant feature	opinion	product	function				x			1	2	1
16	buyer	A	ratings	unimportant feature	opinion	product	function				x			1	2	1
16	buyer	A	search	unimportant feature	opinion	product	function				x			1	2	1
16	buyer	A	video stream	unimportant feature	opinion	product	function				x			1	2	1
16	buyer	B	special discounts for members vs. Non-members appreciated	idea	opinion	context	domain	x			x			2	1	1
16	buyer	B	fuzzy search => online-community could help user to find desired product	idea	opinion	product	usp				x	x	x	2	2	2
16	buyer	B	phone better/more convenient communication tool than email	idea	opinion	product	function					x		1	1	2
16	buyer	B	connection-speed very important	idea	opinion	context	infrastructure				x			0	1	1
16	buyer	B	Avatar	essential feature	opinion	product	function				x			1	2	1
16	buyer	B	download	essential feature	opinion	product	function				x			1	2	1
16	buyer	B	observed products/items	essential feature	opinion	product	function				x			1	2	1
16	buyer	B	pay/vote/buy	essential feature	opinion	product	function				x			1	2	1
16	buyer	B	product introduce	essential feature	opinion	product	function				x			1	2	1
16	buyer	B	search	essential feature	opinion	product	function				x			1	2	1
16	buyer	B	sort list	essential feature	opinion	product	function				x			1	2	1
16	buyer	B	community/inerst group building	important feature	opinion	product	function				x			1	2	1
16	buyer	B	invite a friend	important feature	opinion	product	function				x			1	2	1

User	role	scenario	Idea	category	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
16	buyer	B	list view	important feature	opinion	product	function				x			1	2	1
16	buyer	B	payment methods	important feature	opinion	product	function				x			1	2	1
16	buyer	B	pinboard	important feature	opinion	product	function				x			1	2	1
16	buyer	B	ratings	important feature	opinion	product	function				x			1	2	1
16	buyer	B	Recommendation	important feature	opinion	product	function				x			1	2	1
16	buyer	B	Jukebox	unimportant feature	opinion	product	function				x			1	2	1
16	buyer	B	Background Music	unimportant feature	opinion	product	function				x			1	2	1
16	buyer	B	chat	unimportant feature	opinion	product	function				x			1	2	1
16	buyer	B	Email	unimportant feature	opinion	product	function				x			1	2	1
16	buyer	B	friendslist	unimportant feature	opinion	product	function				x			1	2	1
16	buyer	B	podcast	unimportant feature	opinion	product	function				x			1	2	1
16	buyer	B	profiles	unimportant feature	opinion	product	function				x			1	2	1
16	buyer	B	video stream	unimportant feature	opinion	product	function				x			1	2	1
18	buyer	A	invite friends to build small online-communities with them	idea	opinion	context	domain	x						2	2	1
18	buyer	A	publicize personal information to enhance trust	idea	opinion	context	domain	x					x	1	2	1
18	buyer	A	use profile information to facilitate search	idea	opinion	product	usp				x		x	1	1	1
18	buyer	A	Email	essential feature	opinion	product	function				x			1	2	1
18	buyer	A	invite a friend	essential feature	opinion	product	function				x			1	2	1
18	buyer	A	payment methods	essential feature	opinion	product	function				x			1	2	1
18	buyer	A	product introduce	essential feature	opinion	product	function				x			1	2	1
18	buyer	A	profiles	essential feature	opinion	product	function				x			1	2	1
18	buyer	A	download	important feature	opinion	product	function				x			1	2	1
18	buyer	A	friendslist	important feature	opinion	product	function				x			1	2	1
18	buyer	A	list view	important feature	opinion	product	function				x			1	2	1
18	buyer	A	pinboard	important feature	opinion	product	function				x			1	2	1
18	buyer	A	sort list	important feature	opinion	product	function				x			1	2	1
18	buyer	A	Jukebox	unimportant feature	opinion	product	function				x			1	2	1
18	buyer	A	Avatar	unimportant feature	opinion	product	function				x			1	2	1

User	role	scenario	Idea	category	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
18	buyer	A	Background Music	unimportant feature	opinion	product	function				x			1	2	1
18	buyer	A	chat	unimportant feature	opinion	product	function				x			1	2	1
18	buyer	A	community/inerst group building	unimportant feature	opinion	product	function				x			1	2	1
18	buyer	A	observed products/items	unimportant feature	opinion	product	function				x			1	2	1
18	buyer	A	pay/vote/buy	unimportant feature	opinion	product	function				x			1	2	1
18	buyer	A	podcast	unimportant feature	opinion	product	function				x			1	2	1
18	buyer	A	ratings	unimportant feature	opinion	product	function				x			1	2	1
18	buyer	A	Recommendation	unimportant feature	opinion	product	function				x			1	2	1
18	buyer	A	search	unimportant feature	opinion	product	function				x			1	2	1
18	buyer	A	video stream	unimportant feature	opinion	product	function				x			1	2	1
18	buyer	B	importance of appropriate download speed	idea	opinion	context	infrastructure				x			0	1	2
18	buyer	B	favourites to allow ordering and payment at a particular time	idea	opinion	product	function				x			2	1	1
18	buyer	B	download	essential feature	opinion	product	function				x			1	2	1
18	buyer	B	payment methods	essential feature	opinion	product	function				x			1	2	1
18	buyer	B	podcast	essential feature	opinion	product	function				x			1	2	1
18	buyer	B	product introduce	essential feature	opinion	product	function				x			1	2	1
18	buyer	B	search	essential feature	opinion	product	function				x			1	2	1
18	buyer	B	observed products/items	important feature	opinion	product	function				x			1	2	1
18	buyer	B	pay/vote/buy	important feature	opinion	product	function				x			1	2	1
18	buyer	B	Recommendation	important feature	opinion	product	function				x			1	2	1
18	buyer	B	Jukebox	unimportant feature	opinion	product	function				x			1	2	1
18	buyer	B	Avatar	unimportant feature	opinion	product	function				x			1	2	1
18	buyer	B	Background Music	unimportant feature	opinion	product	function				x			1	2	1
18	buyer	B	chat	unimportant feature	opinion	product	function				x			1	2	1
18	buyer	B	community/inerst group building	unimportant feature	opinion	product	function				x			1	2	1
18	buyer	B	Email	unimportant feature	opinion	product	function				x			1	2	1
18	buyer	B	friendslist	unimportant feature	opinion	product	function				x			1	2	1
18	buyer	B	invite a friend	unimportant feature	opinion	product	function				x			1	2	1

User	role	scenario	Idea	category	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
18	buyer	B	list view	unimportant feature	opinion	product	function				x			1	2	1
18	buyer	B	pinboard	unimportant feature	opinion	product	function				x			1	2	1
18	buyer	B	profiles	unimportant feature	opinion	product	function				x			1	2	1
18	buyer	B	ratings	unimportant feature	opinion	product	function				x			1	2	1
18	buyer	B	sort list	unimportant feature	opinion	product	function				x			1	2	1
18	buyer	B	video stream	unimportant feature	opinion	product	function				x			1	2	1
19	seller	A	support/help-function in registration helpful	idea	opinion	product	function				x		x	1	1	1
19	seller	A	Email important => to be used to retrive password	idea	opinion	product	function				x			1	1	1
19	seller	A	Avatar	essential feature	opinion	product	function				x			1	2	1
19	seller	A	community/inerst group building	essential feature	opinion	product	function				x			1	2	1
19	seller	A	Email	essential feature	opinion	product	function				x			1	2	1
19	seller	A	profiles	essential feature	opinion	product	function				x			1	2	1
19	seller	A	Background Music	important feature	opinion	product	function				x			1	2	1
19	seller	A	pinboard	important feature	opinion	product	function				x			1	2	1
19	seller	A	ratings	important feature	opinion	product	function				x			1	2	1
19	seller	A	Jukebox	unimportant feature	opinion	product	function				x			1	2	1
19	seller	A	chat	unimportant feature	opinion	product	function				x			1	2	1
19	seller	A	download	unimportant feature	opinion	product	function				x			1	2	1
19	seller	A	friendslist	unimportant feature	opinion	product	function				x			1	2	1
19	seller	A	invite a friend	unimportant feature	opinion	product	function				x			1	2	1
19	seller	A	list view	unimportant feature	opinion	product	function				x			1	2	1
19	seller	A	observed products/items	unimportant feature	opinion	product	function				x			1	2	1
19	seller	A	pay/vote/buy	unimportant feature	opinion	product	function				x			1	2	1
19	seller	A	payment methods	unimportant feature	opinion	product	function				x			1	2	1
19	seller	A	podcast	unimportant feature	opinion	product	function				x			1	2	1
19	seller	A	product introduce	unimportant feature	opinion	product	function				x			1	2	1
19	seller	A	Recommendation	unimportant feature	opinion	product	function				x			1	2	1
19	seller	A	search	unimportant feature	opinion	product	function				x			1	2	1

User	role	scenario	Idea	category	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
19	seller	A	sort list	unimportant feature	opinion	product	function				x			1	2	1
19	seller	A	video stream	unimportant feature	opinion	product	function				x			1	2	1
19	seller	B	posts to get information about the product but also about the website itself		opinion	product	usp				x			1	1	1
19	seller	B	pay/vote/buy	essential feature	opinion	product	function				x			1	2	1
19	seller	B	payment methods	essential feature	opinion	product	function				x			1	2	1
19	seller	B	pinboard	essential feature	opinion	product	function				x			1	2	1
19	seller	B	product introduce	essential feature	opinion	product	function				x			1	2	1
19	seller	B	Background Music	important feature	opinion	product	function				x			1	2	1
19	seller	B	list view	important feature	opinion	product	function				x			1	2	1
19	seller	B	Recommendation	important feature	opinion	product	function				x			1	2	1
19	seller	B	sort list	important feature	opinion	product	function				x			1	2	1
19	seller	B	Jukebox	unimportant feature	opinion	product	function				x			1	2	1
19	seller	B	Avatar	unimportant feature	opinion	product	function				x			1	2	1
19	seller	B	chat	unimportant feature	opinion	product	function				x			1	2	1
19	seller	B	community/inerst group building	unimportant feature	opinion	product	function				x			1	2	1
19	seller	B	download	unimportant feature	opinion	product	function				x			1	2	1
19	seller	B	Email	unimportant feature	opinion	product	function				x			1	2	1
19	seller	B	friendslist	unimportant feature	opinion	product	function				x			1	2	1
19	seller	B	invite a friend	unimportant feature	opinion	product	function				x			1	2	1
19	seller	B	observed products/items	unimportant feature	opinion	product	function				x			1	2	1
19	seller	B	podcast	unimportant feature	opinion	product	function				x			1	2	1
19	seller	B	profiles	unimportant feature	opinion	product	function				x			1	2	1
19	seller	B	ratings	unimportant feature	opinion	product	function				x			1	2	1
19	seller	B	search	unimportant feature	opinion	product	function				x			1	2	1
19	seller	B	video stream	unimportant feature	opinion	product	function				x			1	2	1
32	seller	A	download	essential feature	opinion	product	function				x			1	2	1
32	seller	A	pay/vote/buy	essential feature	opinion	product	function				x			1	2	1
32	seller	A	payment methods	essential feature	opinion	product	function				x			1	2	1

User	role	scenario	Idea	category	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
32	seller	A	product introduce	essential feature	opinion	product	function				x			1	2	1
32	seller	A	Recommendation	essential feature	opinion	product	function				x			1	2	1
32	seller	A	search	essential feature	opinion	product	function				x			1	2	1
32	seller	A	sort list	essential feature	opinion	product	function				x			1	2	1
32	seller	A	Email	important feature	opinion	product	function				x			1	2	1
32	seller	A	list view	important feature	opinion	product	function				x			1	2	1
32	seller	A	ratings	important feature	opinion	product	function				x			1	2	1
32	seller	A	video stream	important feature	opinion	product	function				x			1	2	1
32	seller	A	Jukebox	unimportant feature	opinion	product	function				x			1	2	1
32	seller	A	Avatar	unimportant feature	opinion	product	function				x			1	2	1
32	seller	A	Background Music	unimportant feature	opinion	product	function				x			1	2	1
32	seller	A	chat	unimportant feature	opinion	product	function				x			1	2	1
32	seller	A	community/inerst group building	unimportant feature	opinion	product	function				x			1	2	1
32	seller	A	friendslist	unimportant feature	opinion	product	function				x			1	2	1
32	seller	A	invite a friend	unimportant feature	opinion	product	function				x			1	2	1
32	seller	A	observed products/items	unimportant feature	opinion	product	function				x			1	2	1
32	seller	A	pinboard	unimportant feature	opinion	product	function				x			1	2	1
32	seller	A	podcast	unimportant feature	opinion	product	function				x			1	2	1
32	seller	A	profiles	unimportant feature	opinion	product	function				x			1	2	1
32	seller	B	list view	essential feature	opinion	product	function				x			1	2	1
32	seller	B	credibility important => website are to account for that	idea	opinion	context	domain	x						1	1	1
32	seller	B	connection-speed very important	idea	opinion	context	infrastructure				x			0	1	1
32	seller	B	payment and ordering more important than other functions	idea	opinion	product	function				x			1	2	1
32	seller	B	videos and pictures important to attract users	idea	opinion	product	usp			x			x	1	1	1
32	seller	B	product introduce	essential feature	opinion	product	function				x			1	2	1
32	seller	B	Recommendation	essential feature	opinion	product	function				x			1	2	1

User	role	scenario	Idea	category	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
32	seller	B	sort list	essential feature	opinion	product	function				x			1	2	1
32	seller	B	video stream	essential feature	opinion	product	function				x			1	2	1
32	seller	B	download	important feature	opinion	product	function				x			1	2	1
32	seller	B	pay/vote/buy	important feature	opinion	product	function				x			1	2	1
32	seller	B	payment methods	important feature	opinion	product	function				x			1	2	1
32	seller	B	Jukebox	unimportant feature	opinion	product	function				x			1	2	1
32	seller	B	Avatar	unimportant feature	opinion	product	function				x			1	2	1
32	seller	B	Background Music	unimportant feature	opinion	product	function				x			1	2	1
32	seller	B	chat	unimportant feature	opinion	product	function				x			1	2	1
32	seller	B	community/inerst group building	unimportant feature	opinion	product	function				x			1	2	1
32	seller	B	Email	unimportant feature	opinion	product	function				x			1	2	1
32	seller	B	friendslist	unimportant feature	opinion	product	function				x			1	2	1
32	seller	B	invite a friend	unimportant feature	opinion	product	function				x			1	2	1
32	seller	B	observed products/items	unimportant feature	opinion	product	function				x			1	2	1
32	seller	B	pinboard	unimportant feature	opinion	product	function				x			1	2	1
32	seller	B	podcast	unimportant feature	opinion	product	function				x			1	2	1
32	seller	B	profiles	unimportant feature	opinion	product	function				x			1	2	1
32	seller	B	ratings	unimportant feature	opinion	product	function				x			1	2	1
32	seller	B	search	unimportant feature	opinion	product	function				x			1	2	1
36	buyer	A	importance of safe payment	idea	opinion	context	domain	x						0	1	1
36	buyer	A	not too much input to be required within initial registration; basic personal information sufficient	idea	opinion	context	user			x			x	1	2	1
36	buyer	A	impotant to clarify what grades are standing for	idea	opinion	product	function				x		x	1	2	1
36	buyer	A	chat	essential feature	opinion	product	function				x			1	2	1
36	buyer	A	Email	essential feature	opinion	product	function				x			1	2	1
36	buyer	A	list view	essential feature	opinion	product	function				x			1	2	1
36	buyer	A	payment methods	essential feature	opinion	product	function				x			1	2	1
36	buyer	A	product introduce	essential feature	opinion	product	function				x			1	2	1
36	buyer	A	profiles	essential feature	opinion	product	function				x			1	2	1

User	role	scenario	Idea	category	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
36	buyer	A	ratings	essential feature	opinion	product	function				x			1	2	1
36	buyer	A	sort list	essential feature	opinion	product	function				x			1	2	1
36	buyer	A	Jukebox	unimportant feature	opinion	product	function				x			1	2	1
36	buyer	A	Avatar	unimportant feature	opinion	product	function				x			1	2	1
36	buyer	A	Background Music	unimportant feature	opinion	product	function				x			1	2	1
36	buyer	A	community/inerst group building	unimportant feature	opinion	product	function				x			1	2	1
36	buyer	A	download	unimportant feature	opinion	product	function				x			1	2	1
36	buyer	A	friendslist	unimportant feature	opinion	product	function				x			1	2	1
36	buyer	A	invite a friend	unimportant feature	opinion	product	function				x			1	2	1
36	buyer	A	observed products/items	unimportant feature	opinion	product	function				x			1	2	1
36	buyer	A	pay/vote/buy	unimportant feature	opinion	product	function				x			1	2	1
36	buyer	A	pinboard	unimportant feature	opinion	product	function				x			1	2	1
36	buyer	A	podcast	unimportant feature	opinion	product	function				x			1	2	1
36	buyer	A	Recommendation	unimportant feature	opinion	product	function				x			1	2	1
36	buyer	A	search	unimportant feature	opinion	product	function				x			1	2	1
36	buyer	A	video stream	unimportant feature	opinion	product	function				x			1	2	1
36	buyer	B	prefers CDs over downloaded music files	idea	opinion	context	user	x						1	1	1
36	buyer	B	abundance of free music resources on the web; charging for downloads difficult	idea	opinion	context	domain	x						0	1	1
36	buyer	B	special theme areas (e.g. birthday presents) appreciated	idea	opinion	product	function			x	x			2	1	1
36	buyer	B	categorization of recommended products appreciated	idea	opinion	product	function				x			1	2	1
36	buyer	B	automatic categorization of users into different groups appreciated	idea	opinion	product	function				x			2	2	1
36	buyer	B	design and realization of payment method very important => critical successfactor of website	idea	opinion	product	function			x			x	1	1	1
36	buyer	B	Jukebox	essential feature	opinion	product	function				x			1	2	1
36	buyer	B	pay/vote/buy	essential feature	opinion	product	function				x			1	2	1
36	buyer	B	product introduce	essential feature	opinion	product	function				x			1	2	1

User	role	scenario	Idea	category	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
36	buyer	B	Recommendation	essential feature	opinion	product	function				x			1	2	1
36	buyer	B	search	essential feature	opinion	product	function				x			1	2	1
36	buyer	B	chat	important feature	opinion	product	function				x			1	2	1
36	buyer	B	list view	important feature	opinion	product	function				x			1	2	1
36	buyer	B	pinboard	important feature	opinion	product	function				x			1	2	1
36	buyer	B	sort list	important feature	opinion	product	function				x			1	2	1
36	buyer	B	Avatar	unimportant feature	opinion	product	function				x			1	2	1
36	buyer	B	Background Music	unimportant feature	opinion	product	function				x			1	2	1
36	buyer	B	community/inerst group building	unimportant feature	opinion	product	function				x			1	2	1
36	buyer	B	download	unimportant feature	opinion	product	function				x			1	2	1
36	buyer	B	Email	unimportant feature	opinion	product	function				x			1	2	1
36	buyer	B	friendslist	unimportant feature	opinion	product	function				x			1	2	1
36	buyer	B	invite a friend	unimportant feature	opinion	product	function				x			1	2	1
36	buyer	B	observed products/items	unimportant feature	opinion	product	function				x			1	2	1
36	buyer	B	payment methods	unimportant feature	opinion	product	function				x			1	2	1
36	buyer	B	podcast	unimportant feature	opinion	product	function				x			1	2	1
36	buyer	B	profiles	unimportant feature	opinion	product	function				x			1	2	1
36	buyer	B	ratings	unimportant feature	opinion	product	function				x			1	2	1
36	buyer	B	video stream	unimportant feature	opinion	product	function				x			1	2	1
39	buyer	A	email, phone number and MSN important seller infprmation; possibly personal description	idea	opinion	product	function			x			x	1	2	2
39	buyer	A	does not like chatting with strangers; especially not using video/audio chanels	idea	opinion	context	user	x				x		1	1	1
39	buyer	A	community/inerst group building	essential feature	opinion	product	function				x			1	2	1
39	buyer	A	Email	essential feature	opinion	product	function				x			1	2	1
39	buyer	A	list view	essential feature	opinion	product	function				x			1	2	1
39	buyer	A	observed products/items	essential feature	opinion	product	function				x			1	2	1
39	buyer	A	pinboard	essential feature	opinion	product	function				x			1	2	1
39	buyer	A	podcast	essential feature	opinion	product	function				x			1	2	1

User	role	scenario	Idea	category	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
39	buyer	A	product introduce	essential feature	opinion	product	function				x			1	2	1
39	buyer	A	profiles	essential feature	opinion	product	function				x			1	2	1
39	buyer	A	ratings	essential feature	opinion	product	function				x			1	2	1
39	buyer	A	Avatar	important feature	opinion	product	function				x			1	2	1
39	buyer	A	Background Music	important feature	opinion	product	function				x			1	2	1
39	buyer	A	chat	important feature	opinion	product	function				x			1	2	1
39	buyer	A	friendslist	important feature	opinion	product	function				x			1	2	1
39	buyer	A	Recommendation	important feature	opinion	product	function				x			1	2	1
39	buyer	A	video stream	important feature	opinion	product	function				x			1	2	1
39	buyer	A	Jukebox	unimportant feature	opinion	product	function				x			1	2	1
39	buyer	A	download	unimportant feature	opinion	product	function				x			1	2	1
39	buyer	A	invite a friend	unimportant feature	opinion	product	function				x			1	2	1
39	buyer	A	pay/vote/buy	unimportant feature	opinion	product	function				x			1	2	1
39	buyer	A	payment methods	unimportant feature	opinion	product	function				x			1	2	1
39	buyer	A	search	unimportant feature	opinion	product	function				x			1	2	1
39	buyer	A	sort list	unimportant feature	opinion	product	function				x			1	2	1
39	buyer	B	trial/demo of digital products very important	idea	opinion	product	function				x		x	1	2	1
39	buyer	B	probation-time for new users appreciated	idea	opinion	product	usp	x			x		x	2	2	1
39	buyer	B	Jukebox	essential feature	opinion	product	function				x			1	2	1
39	buyer	B	download	essential feature	opinion	product	function				x			1	2	1
39	buyer	B	invite a friend	essential feature	opinion	product	function				x			1	2	1
39	buyer	B	list view	essential feature	opinion	product	function				x			1	2	1
39	buyer	B	observed products/items	essential feature	opinion	product	function				x			1	2	1
39	buyer	B	pay/vote/buy	essential feature	opinion	product	function				x			1	2	1
39	buyer	B	payment methods	essential feature	opinion	product	function				x			1	2	1
39	buyer	B	podcast	essential feature	opinion	product	function				x			1	2	1
39	buyer	B	product introduce	essential feature	opinion	product	function				x			1	2	1
39	buyer	B	Recommendation	essential feature	opinion	product	function				x			1	2	1

User	role	scenario	Idea	category	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
39	buyer	B	search	essential feature	opinion	product	function				x			1	2	1
39	buyer	B	sort list	essential feature	opinion	product	function				x			1	2	1
39	buyer	B	video stream	essential feature	opinion	product	function				x			1	2	1
39	buyer	B	Avatar	important feature	opinion	product	function				x			1	2	1
39	buyer	B	Background Music	important feature	opinion	product	function				x			1	2	1
39	buyer	B	chat	unimportant feature	opinion	product	function				x			1	2	1
39	buyer	B	community/inerst group building	unimportant feature	opinion	product	function				x			1	2	1
39	buyer	B	Email	unimportant feature	opinion	product	function				x			1	2	1
39	buyer	B	friendslist	unimportant feature	opinion	product	function				x			1	2	1
39	buyer	B	pinboard	unimportant feature	opinion	product	function				x			1	2	1
39	buyer	B	profiles	unimportant feature	opinion	product	function				x			1	2	1
39	buyer	B	ratings	unimportant feature	opinion	product	function				x			1	2	1
41	buyer	A	importance of credibility	idea	opinion	context	domain	x						1	1	0
41	buyer	A	registration to be kept very simple	idea	opinion	product	function				x		x	1	1	1
41	buyer	A	Jukebox	essential feature	opinion	product	function				x			1	2	1
41	buyer	A	chat	essential feature	opinion	product	function				x			1	2	1
41	buyer	A	download	essential feature	opinion	product	function				x			1	2	1
41	buyer	A	invite a friend	essential feature	opinion	product	function				x			1	2	1
41	buyer	A	list view	essential feature	opinion	product	function				x			1	2	1
41	buyer	A	observed products/items	essential feature	opinion	product	function				x			1	2	1
41	buyer	A	pay/vote/buy	essential feature	opinion	product	function				x			1	2	1
41	buyer	A	payment methods	essential feature	opinion	product	function				x			1	2	1
41	buyer	A	podcast	essential feature	opinion	product	function				x			1	2	1
41	buyer	A	product introduce	essential feature	opinion	product	function				x			1	2	1
41	buyer	A	profiles	essential feature	opinion	product	function				x			1	2	1
41	buyer	A	ratings	essential feature	opinion	product	function				x			1	2	1
41	buyer	A	Recommendation	essential feature	opinion	product	function				x			1	2	1
41	buyer	A	search	essential feature	opinion	product	function				x			1	2	1
41	buyer	A	Avatar	important feature	opinion	product	function				x			1	2	1

User	role	scenario	Idea	category	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
41	buyer	A	community/inerst group building	important feature	opinion	product	function				x			1	2	1
41	buyer	A	Email	important feature	opinion	product	function				x			1	2	1
41	buyer	A	friendslist	important feature	opinion	product	function				x			1	2	1
41	buyer	A	pinboard	important feature	opinion	product	function				x			1	2	1
41	buyer	A	sort list	important feature	opinion	product	function				x			1	2	1
41	buyer	A	video stream	important feature	opinion	product	function				x			1	2	1
41	buyer	A	Background Music	unimportant feature	opinion	product	function				x			1	2	1
41	buyer	B	discounted product zone appreciated	idea	opinion	product	usp			x	x			2	1	1
41	buyer	B	direct connection to online-bank appreciated	idea	opinion	product	function				x			1	1	1
41	buyer	B	if the product is a song the seller's grade is less important than the song itself	idea	opinion	context	domain					x	x	2	1	1
41	buyer	B	if posting area is available, online community is less important	idea	opinion	product	function				x	x		1	2	1
41	buyer	B	download	essential feature	opinion	product	function				x			1	2	1
41	buyer	B	list view	essential feature	opinion	product	function				x			1	2	1
41	buyer	B	observed products/items	essential feature	opinion	product	function				x			1	2	1
41	buyer	B	pay/vote/buy	essential feature	opinion	product	function				x			1	2	1
41	buyer	B	payment methods	essential feature	opinion	product	function				x			1	2	1
41	buyer	B	pinboard	essential feature	opinion	product	function				x			1	2	1
41	buyer	B	podcast	essential feature	opinion	product	function				x			1	2	1
41	buyer	B	product introduce	essential feature	opinion	product	function				x			1	2	1
41	buyer	B	Recommendation	essential feature	opinion	product	function				x			1	2	1
41	buyer	B	search	essential feature	opinion	product	function				x			1	2	1
41	buyer	B	sort list	essential feature	opinion	product	function				x			1	2	1
41	buyer	B	video stream	essential feature	opinion	product	function				x			1	2	1
41	buyer	B	Avatar	important feature	opinion	product	function				x			1	2	1
41	buyer	B	chat	important feature	opinion	product	function				x			1	2	1
41	buyer	B	community/inerst group building	important feature	opinion	product	function				x			1	2	1
41	buyer	B	Email	important feature	opinion	product	function				x			1	2	1

User	role	scenario	Idea	category	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
41	buyer	B	friendslist	important feature	opinion	product	function				x			1	2	1
41	buyer	B	invite a friend	important feature	opinion	product	function				x			1	2	1
41	buyer	B	profiles	important feature	opinion	product	function				x			1	2	1
41	buyer	B	ratings	important feature	opinion	product	function				x			1	2	1
41	buyer	B	Jukebox	unimportant feature	opinion	product	function				x			1	2	1
41	buyer	B	Background Music	unimportant feature	opinion	product	function				x			1	2	1
44	seller	A	profiles according to different user-groups (e.g. book sellers vs. Video seller)	idea	opinion	product	usp			x	x	x		1	2	1
44	seller	A	download	essential feature	opinion	product	function				x			1	2	1
44	seller	A	profiles	essential feature	opinion	product	function				x			1	2	1
44	seller	A	Recommendation	essential feature	opinion	product	function				x			1	2	1
44	seller	A	sort list	essential feature	opinion	product	function				x			1	2	1
44	seller	A	Jukebox	unimportant feature	opinion	product	function				x			1	2	1
44	seller	A	Avatar	unimportant feature	opinion	product	function				x			1	2	1
44	seller	A	Background Music	unimportant feature	opinion	product	function				x			1	2	1
44	seller	A	chat	unimportant feature	opinion	product	function				x			1	2	1
44	seller	A	community/inerst group building	unimportant feature	opinion	product	function				x			1	2	1
44	seller	A	Email	unimportant feature	opinion	product	function				x			1	2	1
44	seller	A	friendslist	unimportant feature	opinion	product	function				x			1	2	1
44	seller	A	invite a friend	unimportant feature	opinion	product	function				x			1	2	1
44	seller	A	list view	unimportant feature	opinion	product	function				x			1	2	1
44	seller	A	observed products/items	unimportant feature	opinion	product	function				x			1	2	1
44	seller	A	pay/vote/buy	unimportant feature	opinion	product	function				x			1	2	1
44	seller	A	payment methods	unimportant feature	opinion	product	function				x			1	2	1
44	seller	A	pinboard	unimportant feature	opinion	product	function				x			1	2	1
44	seller	A	podcast	unimportant feature	opinion	product	function				x			1	2	1

User	role	scenario	Idea	category	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
44	seller	A	product introduce	unimportant feature	opinion	product	function				x			1	2	1
44	seller	A	ratings	unimportant feature	opinion	product	function				x			1	2	1
44	seller	A	search	unimportant feature	opinion	product	function				x			1	2	1
44	seller	A	video stream	unimportant feature	opinion	product	function				x			1	2	1
44	seller	B	search function to be used to search own products (comp. Gmail)	idea	opinion	product	function				x			1	1	2
44	seller	B	connection-speed very important	idea	opinion	context	infrastructure				x			0	1	1
44	seller	B	multiple payment methods requested to account for different user-preferences	idea	opinion	product	function				x			1	1	1
44	seller	B	Email	essential feature	opinion	product	function				x			1	2	1
44	seller	B	pay/vote/buy	essential feature	opinion	product	function				x			1	2	1
44	seller	B	payment methods	essential feature	opinion	product	function				x			1	2	1
44	seller	B	product introduce	essential feature	opinion	product	function				x			1	2	1
44	seller	B	Jukebox	unimportant feature	opinion	product	function				x			1	2	1
44	seller	B	Avatar	unimportant feature	opinion	product	function				x			1	2	1
44	seller	B	Background Music	unimportant feature	opinion	product	function				x			1	2	1
44	seller	B	chat	unimportant feature	opinion	product	function				x			1	2	1
44	seller	B	community/inerst group building	unimportant feature	opinion	product	function				x			1	2	1
44	seller	B	download	unimportant feature	opinion	product	function				x			1	2	1
44	seller	B	friendslist	unimportant feature	opinion	product	function				x			1	2	1
44	seller	B	invite a friend	unimportant feature	opinion	product	function				x			1	2	1
44	seller	B	list view	unimportant feature	opinion	product	function				x			1	2	1
44	seller	B	observed products/items	unimportant feature	opinion	product	function				x			1	2	1
44	seller	B	pinboard	unimportant feature	opinion	product	function				x			1	2	1
44	seller	B	podcast	unimportant feature	opinion	product	function				x			1	2	1
44	seller	B	profiles	unimportant feature	opinion	product	function				x			1	2	1
44	seller	B	ratings	unimportant feature	opinion	product	function				x			1	2	1
44	seller	B	Recommendation	unimportant feature	opinion	product	function				x			1	2	1
44	seller	B	search	unimportant feature	opinion	product	function				x			1	2	1

User	role	scenario	Idea	category	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
44	seller	B	sort list	unimportant feature	opinion	product	function				x			1	2	1
44	seller	B	video stream	unimportant feature	opinion	product	function				x			1	2	1

Table 11.52: Cultural Probes - China

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
5	watches movies through the campus network	action	context	user	x						0	0	1
5	exchanges opinions and thoughts on music movies and literature with friends	action	context	user	x						0	0	1
5	uses the internet to trade stocks	action	context	user	x						1	0	1
5	regularly visited websites: reuters.com; shanghai securities news	opinion	context	domain		x					1	1	1
5	rarely buys online (only bought a belt once)	experience	context	user	x						1	1	1
5	uses TT-player to listen to music	action	context	user		x					1	1	1
5	uses Alipay (leading Chinese online payment service)	action	context	domain				x			1	1	1
7	downloads music for free through baidu.com	action	context	competitor		x					1	1	1
7	uses computer basically as a disk player	action	context	user	x						0	0	0
7	watches serie about Mao Zedong	action	context	user	x						0	0	0
7	enjoys watching whole series of sitcoms in his/her holidays	action	context	user	x						0	0	0
7	rarely listens to music	action	context	user	x						0	0	0
7	bought a MP3-player on taobao together with a friend	experience	context	user	x						1	1	1
7	uses taobao.com for online-shopping	action	context	domain		x					1	1	1
7	downloads and watches movies without paying	opinion	context	user	x						1	1	1
7	all roommates share one hard-drive	action	context	infrastructure	x						1	1	1
7	sina.com good website full of resources	opinion	context	domain		x					1	2	1
9	uses campus network	action	context	infrastructure	x						0	0	1
9	uses internet access at home to access information, etc. not available in the campus net	action	context	infrastructure	x						0	0	1
9	tried some online-shops, but could not complete the transaction	experience	context	domain	x			x			2	1	0
9	high internet fees in China	opinion	context	infrastructure	x						0	0	0
9	perceives computers and online (e.g. MP3, MP4) content as superior to physical data carriers (e.g. DVD, CD)	opinion	context	user	x						1	1	1
9	intensive use of the internet; watching TV, reading news, listening to music	action	context	user	x						1	1	1
9	uses taobao.com for online-shopping	action	context	domain		x					1	1	1
9	uses his/her room-mates taobao account as his/her own bank account is not supported by taobao	action	context	domain	x			x			1	1	0
9	regrets not to share more of his/her digital content online	opinion	context	user	x						1	0	0
9	does not like reading eBooks	action	context	user	x						0	0	1
9	uses baidu.com for searching MP3s	action	context	competitor		x					1	1	1
9	trusts big e-businesses; generally not worried about security of online-shopping	opinion	context	user	x						1	1	1
11	downloading movies for free	action	context	user	x						1	1	0

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
11	downloading via website (e.g. xunlei.com) or BT (e.g. eMule)	action	context	competitor		x					1	1	1
11	searches MP3s on baidu.com, QQ-music	action	context	competitor		x					1	1	1
11	uses Kaspersky anti virus software	action	context	domain	x						1	0	0
11	plays games off-line	action	context	user	x						1	0	0
11	disadvantage of QQ-music: only streamed music available	opinion	context	domain				x			1	1	1
11	shares files through campus network; even personal files and messages	action	context	user	x						2	1	1
11	called by a friend who was lacking some money to have dinner together; friend invited to KFC	action	context	user	x						1	0	1
11	listening to streamed music	action	context	user	x						1	1	1
11	watches movies and sitcoms regularly	action	context	user	x						0	0	1
11	dowloading experience not the same as buying a CD or tape in a shop; feels more like a fast-food experience like with KFC	opinion	context	user	x		x	x			2	1	1
11	bought purfume online on taobao.com	experience	context	user	x						1	1	1
11	friends bought books not available locally on dandang.com	experience	context	user	x						1	1	1
11	does not preceive downloading without paying as an illegal act	opinion	context	user	x						1	0	1
11	searched "Candle in the wind" loves Lady Diana	opinion	context	user	x						0	0	1
12	donwloads songs through the campus network in the computer lab	action	context	infrastructure	x						1	0	1
12	dowloads song using qihang.com, baidu.com, xunlei.com	action	context	competitor		x					1	1	1
12	MP3 and MP4 players more and more abundand	opinion	context	domain	x						0	0	0
12	using computer to listen to music, chatting (QQ), reading news	action	context	user	x						1	0	1
12	does not trus online-shopping but still wants to try it	opinion	context	user	x						1	1	1
12	shares music, movies and plays online with friends	action	context	user	x						1	1	1
12	downloads movies through the campus network, BT, or xunlei.com	action	context	domain		x					1	1	1
12	high downloading speed appreciated	opinion	context	infrastructure	x						0	1	1
12	hardly reads books; classmates (major: computer science) also	opinion	context	user	x						0	0	0
12	watches movies online through xuezi.com	action	context	domain		x					1	1	1
12	importance of music for life	opinion	context	user	x						0	0	0
12	no online-shopping experience	experience	context	user	x						1	0	1
12	rich people use iPod - good sound quality	opinion	context	user	x						1	0	1
12	TTplayer preferred media-player	opinion	context	user		x					1	1	1
12	perceives MP3 as higher quality than WMA	opinion	context	user	x						1	2	1
21	donloading music using ting98.com or baidu.com	action	context	competitor		x					1	1	1

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
21	payment via mobile on ting98.com failed	experience	context	domain		x	x	x			2	1	0
21	mainly listens to music in MP3 or MP4 format	action	context	user	x						1	1	1
21	shares music, movies, software and literature	action	context	user	x						1	1	1
21	doesn't shop online	experience	context	user	x						1	0	1
22	downloads music for free through baidu.com	action	context	user		x					1	1	1
22	MP3 and MP4 players more and more abundand	opinion	context	domain	x						0	0	0
22	using compus network for downloading/watching movies	action	context	user	x						0	0	1
22	doesn't shop online	experience	context	user	x						1	0	1
22	commodities (e.g. toothbrush, towels, etc) seem worthwile shopping online	opinion	context	user	x						2	1	1
22	good sound quality and low prices of MP3s appreciated	opinion	context	domain	x						1	1	1
22	TTplayer preferred media-player	opinion	context	user		x					1	1	1
35	accessing e-magazine through blin.com	action	context	competitor		x					1	1	1
35	plays games off-line	action	context	user	x						1	0	0
35	does not trust online-shopping; product-descriptins not trustworthy	opinion	context	user	x						1	1	1
35	would buy DVDs of favourite performer	opinion	context	user	x						1	0	1
35	downloading larger files through campus network or ftp; smaller files through baidu.com or P2P	action	context	domain	x						1	1	1
35	sharing files through P2P; flash-drives	action	context	domain	x						1	1	1
35	sometimes required information only to be found in forums	opinion	context	domain						x	1	1	1
35	preferes real books	opinion	context	user	x						1	1	1
46	donwloading movies and music through the web and/or campus network (ftp)	action	context	domain	x						0	0	1
46	uses baidu.com and campus network for searching MP3s	action	context	domain		x					1	1	1
46	using PC to listen to music, playing games, chatting watching TV	action	context	user	x						1	0	1
46	enjoys working with digital media (working with picture, video and audio software)	action	context	user	x						1	1	1
46	does not trust information provided online 100%	opinion	context	user	x						1	1	1
46	enjoying KTV & cinema	action	context	user	x						0	0	1
46	enjoys video gaming and going to the cinema	action	context	user	x						0	0	1
46	checks price and functionality of new mobile online	action	context	domain	x						1	0	1
46	expecting wireless VOD to become as popular as cable TV	opinion	context	domain	x						0	0	0
46	does not appreciate convergence trend of mobile devices; bought a simple phone	opinion	context	user	x						1	0	1
46	perceives IPTV or DTV as trend	opinion	context	domain	x						0	0	0

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
46	advantages of online-shopping: variety; diasadvantage: difficult to judge product quality	opinion	context	domain	x						1	1	1
48	plays games off-line	action	context	user	x						1	0	0
48	generally perceives online-shopping as trustworthy	opinion	context	user	x						1	1	1
48	paypal & alipay enhance online-security & credibility	opinion	context	domain			x	x			1	2	1
48	using BT (eDunkey; Thunder)	action	context	domain		x					1	1	1
48	sharing ebooks	action	context	user	x						1	1	1
48	enjoying KTV & cinema	action	context	user	x						0	0	1
48	"lectures" about role of media&Ads in daily life and for sales	opinion	context	user	x						0	0	0
48	bandwidth in P2P-filesharing prolematic	opinion	context	infrastructure				x			1	1	0
48	Advertisements and print-media important informations source for shopping online	opinion	context	domain	x						0	0	1
48	listening to music using baidu.com; good sound quality	action	context	domain		x					1	1	1
48	watching online TV through tv.edu.cn	action	context	domain		x					1	1	1
48	using QQ and MSN	action	context	user		x					1	1	1
48	TV on bus appreciated	opinion	context	user	x						0	0	1
48	reading real books better, but ebooks better to search	opinion	context	user	x						1	1	1
48	friend bought mobile adaptor online	experience	context	user	x						1	1	1
48	bough notebook battery online	experience	context	user	x						1	1	1
48	most common online-shopping websites: taobao.com & dandang.com	opinion	context	domain		x					1	1	1
48	Ttplayer, Strom CD preferred media-player	opinion	context	user		x					1	1	1
48	appreciates lively news with good pictures online	opinion	product	design			x				1	1	1
48	prefers Ads with simple and fresh UI	opinion	product	design			x				1	1	1

Table 11.53: Focus Gorups - China

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
29	for convenient download of multiple files, a whole packages should be available for download	opinion	product	function				x			2	2	2
29	function for comparing similar products requested	opinion	product	function				x			2	2	1
29	smaller size producte better to be delivered from door to door	opinion	context	infrastructure	x						0	0	1
29	for this product good advertisement is important	opinion	context	domain						x	1	1	1
29	online-service should be in real-time	opinion	product	function				x			2	2	2
34	girls like to bargin	opinion	context	user	x						1	1	1
34	better to communicate with the seller about the price	opinion	product	function					x		1	2	1
34	cosmetics are all fake or quite expensive online	opinion	context	domain	x						1	1	1
34	credibility of seller very importnat	opinion	context	domain	x					x	2	2	1
34	risk of online-shopping; need for trust	opinion	context	domain	x					x	2	2	1
34	the design of a website is important to support the easy use of the website	opinion	product	design			x				1	1	0
34	xunlei.com good website, convenient to use	opinion	context	competitor		x	x				1	1	1
34	qq is good chatting-tool	opinion	context	competitor		x		x	x		1	1	1
34	uses baidu.com for searching the web	action	context	competitor		x					1	1	1
34	experienced in online-shopping	experience	context	user	x						1	1	1
34	wouldn't buy expensive products online; maybe boys would	opinion	context	domain	x						2	1	1
34	wouldn't buy cloths online	opinion	context	domain	x						1	1	1
34	doesn't like to pay for downloads	action	context	user	x						2	2	1
34	for this product good advertisement is important	opinion	product	domain						x	1	1	1
34	too much junk advertisements on websites annoying	experience	context	competitor						x	1	2	1
34	comments about the seller better than buyer-ratings	opinion	product	function				x		x	2	2	2
34	"friends" recommending someones products make those more popular	opinion	context	domain				x	x	x	1	1	1
34	would be willing to upload own products	opinion	context	user	x						2	2	2
38	some part of the website should facilitate communicating with each other	opinion	product	function					x		1	2	1
38	website would need a bargaining and an ordering function	opinion	product	function				x			0	2	1
38	rating system for the website requested	opinion	product	function				x		x	1	2	1
38	grils prefer to slowly explore a website; like they shop	opinion	context	user	x						1	0	1
38	blogs useful information-source	opinion	context	domain						x	1	2	1
38	reads other buyer comments	action	context	user						x	1	2	1
38	mobile screens too small for surfing the web	opinion	context	infrastructure			x	x			1	2	2
38	doubts safety of online-shopping	opinion	context	domain	x						2	1	1
38	would appreciate to shop online also	opinion	context	user	x						1	0	0

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
38	delivery-fee for group-shopping important	opinion	context	domain	x						1	0	0
38	someone/thing supervising comment and ratings should be implemented	opinion	product	function				x			2	2	1
38	grades of sellser very important	opinion	product	usp						x	1	2	2
45	does not like bargaining	action	context	user	x						1	1	1
45	does not like chatting online	action	product	function	x						1	1	1
45	website should have a function that sends SMS to the seller in case of new buyers	opinion	product	function				x	x		2	2	2
45	the sellers' credibility, grades and user comments is the only information availbale on which to judge the quality of the product	opinion	context	domain						x	2	2	2
45	service is very important	opinion	context	domain	x			x			1	1	1
45	uses dangdang.com; payment after delivery	experience	context	competitor	x	x		x			1	1	1
45	some friends use taobao.com	experience	context	competitor		x					0	1	0
45	reads the news	action	context	domain	x						1	1	1
45	website could log buyer activities	opinion	product	function				x			2	2	1
45	worried about buying digital products online	opinion	context	user	x						2	2	1
45	recommendation/rating functions should only be available to buyers who bought already	opinion	product	function				x			1	1	2
45	willing to share products with others	opinion	context	domain	x						2	2	2
45	seller grades are very important	opinion	product	function						x	1	2	1
56	after-service of online-shopping important and appreciated	opinion	context	domain	x			x			1	1	1
56	does not like bargaining	action	context	user	x						1	1	1
56	bagaining online would be OK, but not every buyer should know the price; should be private	opinion	product	function				x	x	x	2	2	2
56	comminication are should provide a privat area for buyer and seller for bargaining	opinion	product	function					x		1	2	1
56	wonders how to keep the price stabel despite recommendation and grading system	opinion	context	domain	x						2	1	1
56	sellers and buyers should be treated as distinct groups	opinion	product	usp				x	x	x	2	2	1
56	MSN in China too slow	experience	context	domain				x	x		1	2	2
56	shares videos with friends	opinion	context	user	x						2	2	2
56	websites reputation important	opinion	context	domain	x						1	1	1
56	website to cooperate with the law-enforcement department	opinion	context	domain	x			x			2	1	1
56	if product producers and sellers cooperation credibility is higher	opinion	context	domain	x						2	1	1
56	there should be a supervising system of the website	opinion	product	usp				x		x	2	2	1
59	is interested in blogging	action	context	user	x						1	0	1
59	credibility crucial	opinion	context	user	x						2	2	1
59	main reason for shopping online is the price	opinion	context	domain	x						1	1	1

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
59	does not care much about the colours used by a website (girls disagree)	opinion	product	design	x		x				1	1	1
59	taobao.com is very sophisticated in it payment methods and product representation	opinion	context	competitor		x		x		x	1	1	2
59	boys to be rather interested in the content of the website	opinion	context	user	x			x			1	1	1
59	for pplive (software for watching streamed TV online), donwload speed crucial	experience	context	infrastructure				x			1	2	2
59	always uses the same websites	opinion	context	user	x						2	2	1
59	perceives online-shopping as safe	opinion	context	user	x						2	1	1
59	good product quality and credibility to be judged from the sellers ratings/user-comments	opinion	product	usp				x	x	x	0	1	1
59	recommendations/grades very important for seller	opinion	context	domain						x	1	2	2
63	tv-shopping reaches many people quickly; alternative approach	opinion	context	competitor	x			x			2	1	1
63	for some people own blog is very important	opinion	context	user	x						1	0	0
63	just reads posts on his/her blog, usually does not reply	action	context	user	x						1	1	1
63	credibility/honesty important	opinion	context	domain	x					x	2	2	1
63	fears monopoly of sellers make deal among each other	opinion	context	domain	x						2	2	1
63	higher price can be charged for better service	opinion	context	user	x						2	2	1
63	website to be focused on different user-groups	opinion	product	usp			x	x	x	x	2	2	1
63	doesn't know much abour group-shopping	experience	context	user	x						0	0	0
63	group-shopping applicable for hard-ware sales also	opinion	context	domain	x						2	1	1
63	internet very important	opinion	context	user	x						0	1	0
63	uses blog, email, chats	action	context	user	x						1	1	1
63	expects phone to be used for online-shopping in future; technology matures	opinion	context	infrastructure	x			x			2	2	1
63	sellers want to sell more than just one product (whole online-shops are the goal)	opinion	context	domain	x						1	1	0
63	buyers want to get personalized products	opinion	product	usp			x	x		x	1	1	1
63	product data and information should be explicit and not faked	opinion	context	domain	x					x	0	1	1
63	real-time not necessary	opinion	product	function				x	x	x	2	2	2
63	just phone-number of seller sufficient for contact	opinion	product	function					x	x	1	2	1
69	payment issues strongly related to credibility	opinion	context	domain	x						2	2	1
69	prefers QQ over MSN	action	context	user		x	x	x			1	2	1
69	judges online-shopping experiences of other participants as not successful	opinion	context	competitor	x						0	0	0
69	rarely buys online	action	context	user	x						0	1	1
69	if shopping online, always using the same website	action	context	user	x						1	1	1

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
69	pictures, prices and recommendations of other users expected	opinion	product	function						x	1	2	2
69	it is important to know where the product is from	opinion	context	domain						x	2	1	1
69	seller rating could be faked	opinion	context	domain	x						2	2	1
69	selller rating important	opinion	product	function				x		x	1	2	2
74	likes professional blogs	opinion	context	user	x						1	2	1
74	more communication between buyer and seller appreciated	opinion	product	function					x		2	2	1
74	good and easy navigation of the website required	opinion	product	design			x				1	2	0
74	group shopping should be available in a special area of the website	opinion	product	design				x			1	2	1
74	if the size of a group is too small, the product won't be too cheap	opinion	product	domain	x				x		1	1	2
74	more shopping variety online than in TV-shopping; online better	opinion	context	domain	x						1	1	1
74	product representation should comprise some preformance data of the product	opinion	product	function						x	1	2	1
74	many picture of the product requested; to cover all views of the product	opinion	product	function						x	1	2	2
74	genreal product-evaluation should be done by the user; specific product-evaluations should be provided by some services	opinion	product	usp				x		x	2	2	1
74	buyer-feedback to seller should be open to others	opinion	product	function						x	1	1	1
74	wondering if sales happens when seller is online (realtime) or not	opinion	product	function				x			2	2	0
77	bargaining works better face-to-face	opinion	context	domain					x		1	2	1
77	only little trust among people online	opinion	context	user	x						2	2	1
77	requests detailed information about a product; worried about fake product or not	opinion	context	user	x						2	2	2
77	first time use of the service important	opinion	product	usp			x	x			2	1	0
77	UI less important than functionality	opinion	product	design			x	x			2	1	1
77	uses MSN, xiaonei.com	action	product	competitor		x					1	1	1
77	tabobao-com good website; high credibility	opinion	context	competitor	x	x					2	1	1
77	buying process should be simple and support the user	opinion	product	usp			x	x			1	1	0
77	website speed partially determined by service-provider, not just website itself	opinion	context	infrastructure				x			1	1	2
77	uses onine-forums for gathering information	action	context	domain	x					x	1	2	1
77	only buys when getting into contact with seller; without establishing contact product not bought	opinion	product	function	x				x		2	2	2
77	the website should leave room for personalization	opinion	product	usp			x	x		x	2	2	1
77	would buy legal copy of artist if artist is good	action	context	domain	x						2	2	1
77	requests detailed information about a product; worried about fake product or not	opinion	product	function						x	1	2	1

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
77	sellers to make their own advertisements	opinion	context	domain				x		x	2	2	1
77	real shopping more fun that online-shopping; online-shopping better than TV-shopping	opinion	context	domain	x						1	1	1
78	does not chat with strangers online	action	context	user					x		1	2	1
78	want's to see if the seller is online	opinion	product	function						x	2	2	2
78	price most importnat for buying-decision	opinion	context	user	x						1	1	1
78	taobao.com, MSN, QQ are all very convenient	opinion	context	competitor		x			x		1	1	1
78	gils shop without a plan	opinion	context	user	x						1	0	1
78	high website-speed necessary; does not want to wait long for the site to load	opinion	product	function				x			1	2	2
78	uses internet for online shopping (taobao.com); uses qq and msn; plays online games	action	context	user	x	x					1	2	1
78	watches TV online	action	context	user	x						1	2	1
78	uses blog; qq	action	context	user	x			x	x		1	1	1
78	prefers to pay after product is delivered	opinion	context	user	x			x			1	1	1
78	when shopping in real store not clear when shops are having a discount	experience	context	competitor	x						2	1	1
78	basic supplies and cosmetics better not to buy online	opinion	context	domain	x						1	1	1
78	pays for downloading anti-virus-software; does not pay for music	action	context	user	x						2	2	2
78	wants to see sellers contact details	opinion	product	function						x	1	2	0
78	not al comments of users about the products/seller relevant	opinion	context	domain						x	1	1	0
84	got a product he/she was not satisfied with it; exchanged when shopping online	experience	context	domain					x		1	1	1
84	much software occupies too much memory; dislikes	opinion	context	user				x			1	0	1
84	does not know how to use the "favourites" of IE; even though function seems convenient	experience	context	user	x			x			2	1	1
84	qq is a good brand	opinion	context	competitor	x	x					1	1	1
84	uses blog; qq	action	context	user	x			x	x		1	1	1
87	uses online chatting-tool most friends are using/ most popular	action	context	user					x		1	2	2
87	cares abou the credibility of the website itself (not jusr seller)	opinion	product	usp	x						2	2	2
87	products could be priced with a two-tier pricing model (wholesale vs. retail price)	opinion	product	usp				x			2	1	2
87	of two websites have teh same functionality the one with the better UI is chosen	opinion	product	design			x				2	2	1
87	uses qq, MSN and taobao.com	action	context	competitor			x	x	x		1	1	1
87	search function requested	opinion	product	function				x			1	1	1
87	pay pal on taobao.com seems safe; third party between buyer and seller	opinion	context	domain	x	x		x		x	2	2	1
87	time for shopping online shorter/ online-shopping faster	opinion	context	domain	x						1	1	2

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
87	would shop books or similar product online	action	context	user	x						1	1	1
87	comparison of same/similar products of different sellers requested	opinion	product	function				x		x	2	2	1
87	the service is C2C, so there should be a third party for rating, etc.	opinion	product	usp				x			2	2	1
91	forums and posts are quite messy/inefficient for seeking people for group-purchase	opinion	product	function					x		2	2	2
91	sorting function for finding products must be simple and clear	opinion	product	usp			x	x			1	2	0
91	product categories for different people appreciated	opinion	product	usp			x	x		x	2	2	0
91	does not use blog	action	context	user	x						1	1	1
91	bought medicine online; not able to check product quality prior to purchase	experience	context	domain	x					x	2	1	1
91	difficult to judge product quality online	opinion	context	domain				x			1	2	1
91	picture and written description of the product OK, but cover the complete product	opinion	product	function						x	1	2	2
91	a friend's advice is very important	opinion	context	user					x	x	2	2	2
91	requests mobile-number and email of seller	opinion	product	function						x	1	2	1
91	wants to touch the fabric of cloths prior to buying	opinion	context	domain	x					x	1	1	1
91	importance of trustworthyness of product-description	opinion	context	domain	x					x	1	1	0
98	reads posts in forums, but does not reply	action	context	domain	x					x	1	1	1
98	sellers do not contact buyers straightforward (enough)	opinion	context	domain	x				x		2	2	1
98	there should be more channels to offer different products	opinion	product	function					x		2	1	1
98	forums are good communication-tools for facilitating group-purchases	opinion	product	function					x		1	2	1
98	official vendor websites seem trustworthy; sites of some brokers not always; necessary to check if products are real	opinion	context	domain	x						2	2	2
98	official vendor websites seem trustworthy; sites of some brokers not always; necessary to check if products are real	opinion	product	usp				x		x	2	2	2
98	zhuoyue.com good C2B website	opinion	context	competitor		x					2	1	1
98	taobao.com good C2C website	opinion	context	competitor		x					1	1	0
98	some seem people seem quite adicted to the internet	opinion	context	user	x						2	0	0
98	some examples of existing group-shoppung is buying a flat or decorations for flats	experience	context	domain	x						2	2	1
98	some friends are trying to use the internet to get more people involved when shopping in groups	opinion	context	user	x				x		2	2	1
98	group-shopping like chosing a restaurant; always the more crowded the place the better the product expected to be	opinion	product	usp	x				x		1	1	1

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
98	uses internet as information source	action	context	user	x						1	1	1
98	tabobao.com chat-function is available with your mobile; however, technology still to slow in china for good user-experience	opinion	context	infrastructure		x		x			2	2	2
98	tabobao.com chat-function is available with your mobile; however, technology still to slow in china for good user-experience	opinion	context	competitor		x		x	x		2	2	2
98	payment with paypal perceived as safe	opinion	context	domain				x			1	2	1
98	many banks provide online-shopping functions	opinion	context	domain				x			1	1	0
98	some sellers act unprofessional, e.g. closing down their business without prior notice	opinion	context	domain	x						2	1	1
98	more shopping variety online than in TV-shopping; online better	opinion	context	domain	x						1	1	1
98	many picture of the product requested; to cover all views of the product	opinion	product	usp				x		x	1	2	2
98	sellers should inform buyers about the origing of the products	opinion	context	domain						x	2	1	1
98	recommendation space for popular products requested	opinion	product	function				x		x	2	2	2
98	group-shopping function should be promoted by website	opinion	product	usp						x	2	2	2
98	the website or the sellers should provide a service for product-evaluation	opinion	product	function				x			1	2	1
98	more experiences for the user needed with the product when shopping online	opinion	product	usp	x		x	x		x	1	2	1
98	online-service could simlualte real shopping situatoin (e.g. simulate trying cloths in case of online clothing shop)	opinion	product	usp			x	x			2	2	1
98	website need more power to punish bad sellers	opinion	product	function	x			x			2	1	0
98	vendor with real store, seem more trustworthy	opinion	context	domain	x						1	1	1
nn	mobile is the best communication tool	opinion	context	infrastructure	x				x		1	2	1
nn	does not foward bugs/recommendations to existing websites; expects administrators to ignore user-recommendations	opinion	context	domain							2	2	2
nn	build a online community to know other buyers	opinion	product	function				x	x		1	2	1
nn	communicating with sellers through video is very good	opinion	product	function				x	x		1	2	2
nn	worried that in group-shopping some buyers might be sellers' friends	opinion	context	domain	x						2	2	2
nn	when visiting a shopping website, first trust that website, then trust that online store	experience	context	domain	x						2	2	2
nn	security is important	opinion	context	domain	x						1	2	1
nn	worry about the security	opinion	context	user	x						1	2	1
nn	color about the website: someone like bright color, someone like similar color in the whole website, someone like more colors	opinion	product	design			x				1	1	1

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
nn	when downloading, the system should choose the best server, better same network with the user to get better download speed	opinion	product	function				x			2	2	2
nn	donwloading movies via xunlei.com	experience	context	competitor	x	x					1	2	0
nn	online chatting with MSN,QQ	experience	context	user		x		x	x		1	1	1
nn	using taobao's paypal, the payment is easy, very good	opinion	product	function		x		x			1	2	1
nn	female particpants do not like to group shopping with strangers	opinion	context	user	x						2	1	1
nn	group shopping is good	opinion	context	user	x						1	1	0
nn	fast response-time requested	opinion	product	function				x			1	2	2
nn	fast response-time requested	opinion	product	function				x			1	2	2
nn	very easy to collect some information like users' comments	opinion	context	usp						x	1	2	2
nn	most active in the web in the evening	action	context	user	x						2	1	1
nn	watching news, listening to music and shopping online	action	context	user	x						1	1	1
nn	internet via mobile is too slow, and do not know how the mobile company charge money when using internet	opinion	context	infrastructure	x			x			2	2	2
nn	telegraphic money or pay after delivery is good, or using taobao's paypal	opinion	product	function				x			1	2	1
nn	some products are better bought online, some like clothes better not	opinion	context	domain	x						1	1	1
nn	some prefer shopping online, some prefer real market	opinion	context	user	x						0	0	0
nn	Go to the real store first and check the real product, then buying online	opinion	context	user	x						1	1	1
nn	if I like a pop star, I will go to his/her website, and then buy CDs	action	context	user	x						1	2	1
nn	buying legal CD	opinion	context	user	x						1	1	0
nn	if no free download music, I will pay for it	opinion	context	user	x						2	2	1
nn	product delivery-fee and quality important	opinion	context	domain	x						1	0	1
nn	time for product-delivery usually about 2-3 days	opinion	context	infrastructure	x						1	1	1
nn	door-to-door delivery appreciated	opinion	context	infrastructure	x						1	0	1
nn	much information and sound introduction of produt functions requested	opinion	product	usp						x	1	2	1
nn	care about quality, price of the products	opinion	context	domain	x						1	1	1
nn	product information important, want to be able to judge ist usability from that	opinion	product	usp						x	1	2	0
nn	friends' recommendation is very important to choose a seller	opinion	context	user					x	x	2	2	2
nn	own experience with online shopping website, mainly based on friends' recommendation	experience	context	user	x				x		2	2	2
nn	decided for seller, based on grades and users' comments	action	context	user						x	1	2	2
nn	does not like to share personal works	opinion	context	user	x						2	2	2

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
nn	online store better to have a real store too, then "I" could check the real product first and buy it	opinion	context	domain	x						2	1	1
nn	lots of people believe taobao.com, because the taobao have good cooperation with the law department	opinion	context	competitor	x	x					2	2	1
nn	online shopping website should be big, more credibility	opinion	context	domain	x						1	1	1

Table 11.54: Anecdote Circles - China

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
52	streamed videos only to be watched when online	opinion	context	domain	x						0	1	2
52	real digital products better to be bought in real store	opinion	context	domain	x						1	1	1
52	bought a legal movie online with password-protection; difficult to use; gave up	experience	context	user				x			2	2	1
52	searching free papers online difficult	opinion	context	domain				x			1	1	0
52	onlineshopping seems like gambeling, you never know what you get	opinion	context	domain	x						0	1	0
52	easier to get an invoice in real store	opinion	context	domain				x			1	1	1
52	shopping online is cheaper	opinion	context	domain	x						0	0	2
52	legal copies bought online on ebay	action	context	user	x						0	1	1
62	seller rankings could be fake	opinion	context	domain				x	x		2	2	1
62	bought books from china-pub.com, very easy to search, order, the payment need downloading some ActiveX controls to PC	experience	product	design		x					1	2	1
62	bought books from china-pub.com, very easy to search, order, the payment need downloading some ActiveX controls to PC	experience	context	domain		x		x			1	2	1
62	online-shopping seems cheap and conveinient	opinion	context	domain							0	0	1
62	online-shopping seems cheap and conveinient	opinion	context	domain	x						0	0	2
65	preferres online shopping in general	opinion	context	user	x						0	0	1
65	bought books online; hard to tell if those are legal or not	experience	product	usp	x						1	1	1

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
65	online banks generally good, but often bad design makes them hard to use	opinion	product	design			x	x			1	2	1
65	would appreciate big shops (like carrfoure) to offer online-shopping also	opinion	context	competitor	x						1	0	1
65	buys products in groups for better value for money	experience	context	user	x						2	2	2
65	easier to find books in online marketplace than real store	opinion	context	domain				x			1	1	1
65	safteyprobelms with credit cards without password	opinion	context	domain				x			2	2	1
65	books in bookstore more expensive	opinion	context	competitor	x						0	0	2
73	bought some eCards; on taobao.com for mobile	experience	context	user		x					0	1	0
73	bought mobile on taobao; very cheap	experience	context	user	x						0	1	1
73	to sell digital products difficult due to abundance of piracy	opinion	context	domain	x						1	2	1
73	buys legal CDs for own collection	action	context	user	x						1	1	1
73	uses baidu.com for searching the web	opinion	context	competitor	x						0	1	1
73	for legal copies copy-protection required	opinion	context	domain	x						1	1	1
80	using online-bank to pay mobile fees	experience	context	domain				x			1	1	1
80	watching TV online	experience	context	user	x			x			1	1	0
83	friends bough MP3-player and watches online	experience	context	user	x						0	0	0
83	online-shopping seems save	opinion	context	user	x						2	1	0
83	sometimes buys illegal copies of sth.	action	context	domain	x						1	1	1
86	bought books online	experience	context	user	x						0	1	0
86	3D style websites very attractive	opinion	product	design			x				1	1	1
86	buys legal books and movies, if they are good for own collection	action	context	user	x						1	1	1
86	likes real stores	opinion	context	user	x						0	1	0
86	gave up online-shopping due to low spead of website	experience	context	infrastructure				x			1	2	1
86	joined the webssite, so buying becomes cheaper	experience	context	competitor	x			x			2	2	1
86	use of virtual money for shopping	opinion	context	domain				x	x		2	2	1
89	feels better when online-shopping than when shopping in real shop	experience	context	user	x						1	1	0
89	both, new and second hand products are sold on taobao.com	experience	context	competitor	x	x		x			0	0	1
89	to get good products online sometimes feels like shopping by fluke	opinion	context	domain	x						1	1	1
89	some online banks allow payments through mobile; good	opinion	product	function				x			1	2	1
89	some products (e.g. MP3-player) better to be bought in real shop	opinion	context	domain	x						1	1	0
89	buys legal CDs in the shop	action	context	user	x						0	1	1
89	tries cloths in real store and then buys them online	action	context	user	x			x			1	1	1
89	uses filesharing	action	context	user	x						1	2	1

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
89	products (e.g. cloths) represented by pictures make it difficult to really grasp the product	opinion	context	domain				x	x		1	2	1
90	a friend bough a laptop online	experience	context	user	x						0	1	0
90	bought cosmetics online	experience	context	user	x						1	1	0
90	seller rankings could be fake	opinion	context	domain				x	x		2	2	0
90	credibility most important in online-shopping	opinion	product	usp	x				x		2	1	1
90	it's never 100% sure what you get when you buy online	opinion	context	domain	x						1	1	1
90	easier to find products in online marketplace than real store	opinion	context	domain				x			0	1	1
90	online-shopping is cheaper	opinion	context	domain	x						0	0	1
90	wrong cloths bought online were replaced; good experience	experience	context	competitor	x						1	1	1
92	online-product/shopping better than in real store	opinion	context	user	x						1	1	0
92	good example: dell with direct sales; free call product of dell is good	opinion	context	competitor				x			1	1	1
92	credibility as the key issue of online shopping	opinion	product	usp	x				x		2	1	1
92	bought cloths, ended up to be fake ones	experience	context	domain	x						1	1	1
92	applied an online banking account; product was good	experience	context	competitor	x						1	1	0
92	downloads music for free "illegal"	action	context	user	x						1	2	0
92	tried online shopping but failed the payment process, too complicated	experience	product	design				x			1	2	1
93	online-shopping seems very safe	opinion	context	user	x						1	1	1
93	friend opened a shop in taobao.com; very conscious about grades; determine credibility	experience	context	domain	x	x					2	1	2
93	keeps money on online-shopping account rather low	action	context	user	x						1	1	1
93	downloaded movies online through BT (BitTorrent)	action	context	user	x						1	2	1
94	online-shopping seems to be in fashion	opinion	context	user	x						2	1	0
94	signed up for some membership website	action	context	user	x						1	1	0
94	got cheated by online-seller	experience	context	domain	x						1	0	1
94	decided against buying online on taobao.com for credibility and warranty reasons, even though online-shopping is cheaper	opinion	context	domain		x					1	2	1
94	searching papers in library better than online	opinion	context	domain	x						1	1	0
94	bouhgt a mobile online; quality is good	experience	context	user							0	1	1
94	illegal copies often have viruses	opinion	context	domain	x						1	0	1
94	decided against buying online on taobao.com for credibility and warranty reasons, even though online-shopping is cheaper	action	context	user	x	x					1	2	1

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
95	for online-shopping frequent communication with sellers important to clarify product qualities	opinion	product	function				x			2	2	2
95	gets news and article from the web	action	context	user	x						0	1	0
95	prefers watching movies in the cinema	action	context	user	x						1	1	1
95	friends buy together in groups; very cheap	action	context	user	x						2	2	1
95	baidu.com gives results than google.com when searching Chinese websites	opinion	context	domain				x			0	1	1
95	uses baidu.com for searching the web	action	context	domain		x					0	1	1
96	thinks about trying online shopping	action	context	user	x						0	0	0
96	listening to MP3	action	context	user	x						0	1	0
96	perceives online-shopping as not save and so do her friends	opinion	context	user	x						1	1	1
96	friend made bad experiences with appliannces bought online; bad quality	experience	context	domain							1	1	1
96	use of online forums for searching sth.	action	product	function						x	2	1	0
96	real store preferred	opinion	context	user	x						1	1	0
97	buying books online, good cheap and convenient	action	context	user	x						1	1	1
97	prefers downloading music, doesn't like listening to music online	action	context	user	x			x			2	2	2
99	friend sold a mobile online	experience	context	user	x						1	0	0
99	preferes to shop for clothes online	opinion	context	user	x						1	0	1
99	bought perfume online; very cheap; not sure if it was fake of not	experience	context	domain	x						1	1	1
99	importance of recommendations through friends; if a friend recommends a good online-shop others will buy there also	opinion	context	user	x				x		2	2	2
99	online-shopping can save time	opinion	context	domain	x						0	0	0
99	a rating system for buyers should be existing also	opinion	product	function				x			2	2	1
100	prefers watching movies in the cinema	action	context	user	x						1	1	1
100	bought a product that could not be found elsewhere online	experience	context	domain	x						1	0	0
101	somtimes buys online	action	context	user	x						0	0	0
101	likes to bargain with sellers	action	context	user	x						2	2	1
101	someone selling his/her own software is a nice approach	opinion	context	domain	x						2	2	1
101	more trust and better product expected from big online-shops	opinion	context	competitor	x						2	1	1
101	experiences with bad products of online-shops	experience	context	domain	x						0	1	0
101	products used for online-search: baidu for CN; google for EN	opinion	context	competitor	x						1	1	1
101	products found and compared in real shops; then bought online	action	context	user	x						1	1	1

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
101	different shopping behavours of male and female (considerations of size???)	opinion	context	user	x						1	0	0
102	friend bought books online	experience	context	user	x						0	0	0
102	ActiveX control bought online	experience	context	user	x						1	1	1
102	importance of grades of sellers, checked first	action	context	domain				x		x	1	2	1
102	started to buy online because friends spoke of big profits real clothing shops have	action	context	user	x						2	0	2
102	experiences with bad products of online-shops	experience	context	competitor	x						0	1	0
102	product delivery to be a critical safety issues in case of single women	opinion	context	user	x						2	0	1
102	products found and compared in real shops; then bought online	action	context	user	x						1	1	1
102	boys more focused on buying decision	opinion	context	user	x						1	0	0
102	taobao and china-pub good shopping websites	opinion	context	competitor		x				x	0	1	1
103	online shopping does not feel safe	opinion	context	domain	x						2	1	0

Table 11.55: Inspiration Card Workshop - China

User	domain	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
10	dormitory	online MSN	action	context	domain	x	x					0	0	1
10	dormitory	in school,should know more information about the school, search the different school information	opinion	context	user	x						0	0	0
10	hotel	playing in hotel	action	context	user	x						0	0	0
10	library	there should be a place in the website to let readers to communicate	opinion	product	function				x	x		1	2	1
10	home	shopping at home	action	context	domain	x						1	1	1
40	dormitory	ordering meal function	action	context	user	x						1	0	1
40	dormitory	there should also be videos in blogs	opinion	context	domain				x	x	x	1	2	1
40	dormitory	blogs is good way to publish videos	opinion	context	domain				x	x	x	1	2	1
40	dormitory	think more girls like online shopping	opinion	context	user	x						1	0	1
40	dormitory	rare to use online bank, games	action	context	domain	x						1	1	1
40	dormitory	conference call functionality very useful	opinion	product	function				x	x		1	1	1
40	hotel	xiaonei.com	opinion	context	competitor		x					1	1	1
40	hotel	video meetings, payment, email	action	context	user				x	x		1	1	1
40	hotel	Beijing Univ.'s "maze" software, downloading, uploading,and sharing	action	product	function				x			2	2	1
40	hotel	foreign exchange, translation	opinion	context	infrastructure	x						0	0	0
40	bar	bar is not good, lots of bad people	opinion	context	user	x						0	0	0
40	library	information published, notice is very important function	opinion	product	function				x		x	1	1	1
40	library	downloading professional pictures from library	opinion	context	user	x						1	1	1
40	library	search	action	product	function				x			0	0	0
47	library	make new friends in the library	action	context	user	x						1	0	0
47	home	buyers rating the sellers	action	product	function				x			0	1	1
51	library	the pc in library is ok, better could using online SMS	opinion	context	domain	x						1	0	1
51	library	music	action	context	user	x						0	1	0
51	library	sharing resources in PCs of library is very important	opinion	context	domain	x						1	1	1
51	dormitory	games, music in domitory	action	context	user	x						0	0	0
51	dormitory	online shopping, airticket is very good	experience	context	domain		x					1	1	1
51	home	seeking jobs online before graduating	action	context	user	x						0	0	1
51	hotel	watching TV at hotel	action	context	user	x						0	0	1
51	hotel	mobile is used very often when business travel	action	context	user	x						0	0	1
51	friends	play games, sharing files	action	context	user	x						1	1	0

User	domain	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
56	dormitory	internet assitant for websearch	opinion	product	function				x			1	1	0
56	hotel	chatting with famlies, message board, comments to the hotel	action	context	user				x	x		1	0	0
56	hotel	text friends	action	context	user	x						0	0	0
56	bar	a internet assitant on bars to remind me	opinion	context	domain	x						1	1	0
56	library	good payment methods for the print fee	opinion	context	domain	x						0	0	0
56	library	the ordering function in "our" library is not good	opinion	context	domain	x						1	0	0
61	dormitory	there are some leaks on te online payment, should be fiexed	opinion	context	domain	x						1	1	0
61	dormitory	searching function, surfing online with internet	opinion	context	user				x			0	0	0
61	hotel	could offer local information	opinion	context	user	x						0	0	0
61	hotel	driving, maps and GPS	opinion	context	user	x						0	0	0
61	hotel	telephone/video meetings, need the assistant function	opinion	product	function					x		0	1	0
61	bar	why need internet in bars	opinion	context	user	x						1	0	0
61	library	in library, the CDs with books should be borrowed , copied, or downloading	opinion	context	domain	x						0	0	1
61	library	better to make some e-version of some old books or magazines	opinion	context	domain	x						0	0	1
61	library	using SMS to ordering, readers could upload some good resources to the website	opinion	context	domain	x				x		1	1	1
61	library	better to have a "smart return"	opinion	context	domain	x						1	0	0
61	home	file sharing	action	context	domain	x						1	1	0
61	home	build a website for the community for neighbours	opinion	context	domain	x				x		1	1	0
64	library	there could be a place for readers to communicate and writing book review	opinion	context	domain					x		1	2	1
64	dormitory	online shopping is good	opinion	context	domain	x						1	1	0
64	home	playing at home and domitory should be different	action	context	user	x						1	0	0
64	bar	more like tea places than bars	opinion	context	user	x						0	0	0
64	hotel	information on local places of interest	opinion	context	user	x						0	0	1
66	library	there should be a ordering function in library	opinion	product	function				x			0	0	1
66	library	e-message board could record some books' name that required	opinion	context	domain						x	1	0	1
66	library	searching function should offer sorting by authors, there also should be some learning videos	opinion	product	function				x			1	2	1
66	library	want the reservation function, and could know when some books will be returned	opinion	context	domain				x		x	1	0	1

User	domain	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
66	library	downloading resources from library	action	context	user				x			0	0	0
66	library	some books only could be found in library, better to know who borrow it right now	opinion	context	domain						x	1	0	1
66	dormitory	like online video	opinion	context	user	x						1	1	1
66	dormitory	in domitory, there are similar functions online, like in library	opinion	context	user	x						0	0	1
66	dormitory	online novels are very popular	opinion	context	domain	x						1	1	1
66	home	online video meetings at home	action	context	domain				x	x		1	2	0
66	home	every software should have assitant function	opinion	product	function				x			1	0	0
66	hotel	information on local places of interest	opinion	context	user	x						0	0	1
66	friends	music, movies	action	context	user	x						0	0	0
66	friends	sharing music, videos	action	context	user	x						1	1	0
66	friends	xiaonei.com is good, rare to use blog	opinion	context	user		x			x		1	1	1
79	library	better have a ESMS online	opinion	context	user				x	x		1	1	0
79	library	there should be a e-message board on the library	opinion	context	domain						x	0	0	1
79	library	there should be a online print function	opinion	context	domain				x			1	1	1
79	dormitory	search for pictures	action	context	user	x						0	0	1
79	home	online report the lost of bank cards	action	context	domain					x		1	1	1
79	home	online payment, using mobile to pay some fees	action	context	domain				x			1	1	1
79	hotel	go to internet, book airticket online	action	context	domain	x						0	1	1
79	hotel	information on local places of interest	opinion	context	user	x						0	0	0
79	friends	online shopping clothes	action	context	domain	x						1	1	1
81	library	personal information could be published online to let others know me	opinion	context	user	x			x		x	1	1	1
81	dormitory	reading newspapers and magazines in domitory	action	context	user	x						0	0	0
81	home	"assitant"	opinion	product	function				x			0	0	0
81	hotel	rating the hotel online	action	context	domain	x			x			0	1	1
81	hotel	telephone meeting is very important, media playing is very important	opinion	context	domain					x		1	1	1
81	friends	reading books with friends	action	context	user	x						1	1	1
104	dormitory	writing blog with mobile and then upload, downloading games	opinion	context	domain				x	x		1	1	1
104	hotel	video meetings, e-cards, contacts of friends	action	context	domain				x	x		0	1	0
104	hotel	sending emails through mobile	action	context	infrastructure				x			1	1	0
104	hotel	reservation online	action	context	domain	x						0	0	1
104	bar	friends to get to know each other in bars	action	context	user	x						1	0	1

User	domain	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
104	bar	rating the bars, introduction of the bars	opinion	context	domain	x			x			1	1	1
104	home	new movie recommendation at home	opinion	context	user					x		1	0	0
104	home	greetings, e-cards	action	context	domain					x		0	1	0
105	dormitory	watching movies, chatting, bargain together online	action	context	domain	x						1	1	1
105	bar	reading others' blogs at bars	action	context	domain	x				x	x	0	0	1
105	hotel	ask whether the hotel offer a website or wifi	opinion	context	infrastructure	x						0	0	0
105	home	file sharing, online game,movies, news	action	context	domain	x						1	1	1
106	dormitory	lots of assitant softwares	opinion	context	domain				x			0	0	0
106	dormitory	commenting on the products are better, and there also should be discounting information on the forum	opinion	product	function				x	x	x	1	2	1
106	hotel	upload	action	context	domain				x			0	1	0
110	hotel	airticket, reservation service , email is very important	opinion	context	domain	x				x		0	0	1
110	home	paying by mobile	action	product	function				x			1	1	1
111	dormitory	ask if could ordering meals online?	action	context	user	x						0	0	1
111	dormitory	remembering function	opinion	product	function				x		x	0	0	0
111	hotel	search, for books etc	action	context	user				x			0	0	0
111	hotel	search some resources	action	context	user	x						0	0	0
111	bar	watch soccers in bars	action	context	user	x						0	0	1
111	library	searching, ordering in library	action	product	function	x						0	0	1
111	library	water, coffee supplies in library	action	context	domain	x						0	0	1
111	home	watching movies online at home	action	context	domain	x						1	1	1
111	home	contact with school at home	action	context	user	x						0	0	0
112	dormitory	using mobile to explore some website, downloading ringtones	opinion	context	infrastructure	x			x			1	1	1
112	hotel	online chatting	action	context	user					x		0	1	0
112	hotel	call for service	action	context	user	x						0	0	1
112	bar	relax in bars, music or soccer funs' bar	action	context	user	x						0	0	0
112	bar	could use credit cards in bars	action	context	infrastructure	x						0	0	1
112	library	e-message board	opinion	context	domain						x	1	1	0
112	library	sending SMS through mobile	action	context	user					x		0	0	0
112	library	assitant function for novice users and old books handlings	opinion	product	function				x			1	1	0
112	library	reading blogs	action	context	user	x				x	x	0	0	0
112	library	store bags with cards	action	context	user	x						0	0	1
112	home	online pay some fees	opinion	context	domain	x			x			1	1	1
112	home	rating of online shopping/content	opinion	product	function				x			0	1	1
113	dormitory	file sharing cards...	action	context	user	x						1	1	0

User	domain	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
113	dormitory	have the experience to be cheated by an online seller, lost more than 800 yuan	experience	context	domain	x						1	2	1
113	bar	e-book	action	context	domain						x	0	1	0
113	library	e-message board of the library	opinion	context	domain						x	1	0	1
113	home	the website in univ. for trade among students is safer, because trading face to face	opinion	context	domain	x						2	2	1
114	dormitory	online rating	action	product	function				x			0	0	0
114	bar	uploading pictures when attending a party	action	context	domain	x						1	1	0
114	hotel	searching local area information	action	context	user	x						1	0	1

Table 11.56: Interviews - Korea

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
57	uses computer for working, finding information, searching papers	action	context	user	x						0	1	1
57	buys cloths online	action	context	user	x						1	1	1
57	pays mainly with credit card	action	context	user				x			1	1	1
57	downloads movies & TV programmes	action	context	user	x						1	1	1
57	favourite websites: google, naver (for finding papers especially google scholar	experience	context	competitor		x	x	x			1	1	2
57	favourite colours for websites: blue, green	opinion	product	design			x				1	1	2
57	websites to be easy to find information	opinion	product	usp				x		x	0	1	1
57	toolbar for searching site-content convenient	opinion	product	function				x			1	2	1
57	impressed by tags or pictures on websites that pop-up or rotate on mouse-over (animated information)	opinion	product	design			x	x			1	1	1
57	online-shopping, good point: show delivery process to user	opinion	product	function				x		x	2	2	1
57	online-shopping, point to improve: about size when shopping cloths (wants to know models hight, etc.)	opinion	context	domain				x		x	1	0	1
57	hates breakdown of files of movies currently watching	experience	product	function				x			1	2	1
57	usually get's files from friends rather than searching them himself	action	context	user	x				x	x	2	1	2
57	how to determine favourite sites? => recommendation of friends, other people's opinion	action	context	user					x	x	2	1	1
57	usually downloads files from "file-guri" (P2P site)	experience	context	competitor		x					1	1	1
57	get's information from friends through chatting	action	context	user					x	x	1	1	1
57	uses phone, BBS, email for communication	action	context	user				x	x		1	1	1
57	when information about a certain product needed would rather use phone than BBS or email	action	context	user					x	x	1	1	1
57	other people's opinion about products to be bought really helpful	opinion	context	user				x		x	1	1	1
57	degree of satisfaction helpful for buying stuff	opinion	context	domain						x	1	1	1
57	when downloading files speed and waiting-list (to show status) really important	opinion	product	function				x		x	2	1	1
57	usually looks at "hits" of file (how many other people clicked it) when searching file	action	context	user				x		x	2	2	2
57	usually looks at "hits" of file (how many other people clicked it) when searching file	opinion	product	function				x		x	1	1	1
47	PC : used for web-surfing, Movie of Magic arts, usually for assignments	action	context	user	x						0	1	1
47	Internet : more than 4 hours a day	action	context	user	x						1	1	1
47	Buying Movie : Magic arts	action	context	user	x						1	1	1

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
47	Using cyber money : called Dotori (www.cyworld.com)	action	context	domain				x			2	1	1
47	Webshopping : careful about online shopping	opinion	context	user	x						1	1	1
47	Enjoying site : for cartoon	action	context	user	x						1	0	1
47	Web color : indifferent to it, but white is good	opinion	product	design			x				1	1	1
47	Bookmark : no folder inside, website related to university	action	context	user	x						0	0	0
47	Online shoppingmall : more picture is better	opinion	context	domain						x	1	1	1
47	Funtion for online shop : to compare real size	opinion	context	domain				x		x	1	0	1
47	Payment : always credit cards, never use mobile phone	action	context	user				x			1	1	1
47	Mobile web surfing: never use	experience	context	user	x						1	1	1
47	Private profile : wanna make ucc about his hobby (magic)	opinion	context	user	x						1	0	1
47	Digital media : needs recommendation and verification	opinion	context	domain					x	x	1	2	1
47	Buying : direct meeting is good, chatting is bad	opinion	context	user					x		2	1	1
47	Bulk purchase : he did it for his magic club	experience	context	domain	x						1	1	1
47	Anxious about recommendation : friends tell real valuation	opinion	context	domain	x				x	x	2	1	1
47	Movie/Music : buy when they seem fun	action	context	user	x						1	1	1
47	History of seller : if it exists, he will refer to it	opinion	product	function				x		x	1	1	1
47	group buying : don't need other buyers' information	opinion	context	user						x	1	1	1
54	uses computer fo gaming, searching information, homework	action	context	user	x						0	1	1
54	uses pc/internet 1-2 hours a day	action	context	user	x						1	1	1
54	sometimes internet-shopping for books, shoes, cloths, MP3-files	action	context	user	x						1	1	1
54	used P2P in the past, but pays now for MP3 downloads	action	context	user	x						2	2	1
54	mostly dowloads files through P2P, but doesn't share	action	context	user	x						1	1	1
54	doesn't pay for movies, but for MP3-files	action	context	user	x						2	1	1
54	sold skateboard once through BBS	action	context	user	x						1	1	1
54	favourite website: cyworld (to visit friends websites there)	experience	context	competitor	x	x					1	1	2
54	favourite colours for websites: skyblue (looks comfortable, believable)	opinion	product	design			x				1	1	2
54	doesn't like too much decorated websites; easy to use more important	opinion	product	usp			x	x		x	1	1	1
54	trust is most important to buy stuff	opinion	context	domain	x						1	1	1
54	usually pays by checking card	action	context	user				x			1	1	1
54	doesn't use mobile internet access; just uses basic functions of the phone	action	context	user	x						1	1	1
54	if possible prefers to meet person who sells stuff and looks at it in real	action	context	user					x		2	1	1

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
54	when contact to seller available uses phone, usually	action	context	user					x	x	1	1	1
54	"what did the seller sell in the past", "opinions about the seller" are important informations to buy product	opinion	product	function				x		x	1	2	2
54	sometimes buys a product together with other people	experience	context	domain	x						1	1	1
54	wants detailed information about the product; not only picture	opinion	product	usp						x	0	1	1
54	usually checks "hot or best-selling products"	action	context	user				x		x	1	1	1
54	usually checks "hot or best-selling products"	opinion	product	function				x		x	1	2	1
54	"hot products" list not just helpful for buyers, but for sellers also	opinion	context	domain				x		x	2	1	1
54	"user comments" influnce own buying decision	opinion	context	user				x		x	1	1	1
54	for group-shopping important to know who buys product together	opinion	context	domain	x					x	1	1	1
54	most important thing is information about product, however	opinion	context	domain						x	0	1	1
61	using web for surfing, homework, gaming	action	context	user	x						0	1	1
61	using web 1-2 hours a day (30 min. gaming)	action	context	user	x						1	1	1
61	online-shopping: cloths (buys from a website of a model)	action	context	user	x						1	1	1
61	shopping mall usually more convenient to buy cloths; seller always replies (some korean word) when I write message or ask something	opinion	context	domain	x						1	0	1
61	downloads movies and music through "n-disk"	action	context	user	x	x					2	1	2
61	needs about a week to buy cloths; needs time to look and see	experience	context	user	x						2	1	1
61	favourite website: naver (to read news, comfortable to look at, interesting contents)	experience	context	competitor		x	x	x			1	1	2
61	most important is to find information fast and convenient; colour not so important	opinion	product	usp			x	x		x	1	1	1
61	likes naver in terms of design; cool design, eye for the detail	opinion	product	design			x	x		x	1	1	2
61	usually pays by (Korean word: kyaelyeoichae); does not use mobile payment	action	context	user				x			1	1	1
61	profile as a seller: name, age, gender, adress, phone	opinion	context	domain						x	0	1	2
61	usually writes email to contact the seller	action	context	user					x		1	1	1
61	trust is most important to buy stuff	opinion	context	domain	x						1	1	1
61	amount of other people using website also important for buying stuff	opinion	context	domain				x		x	1	1	1
61	[some Korean comments]												
61	needs detailed information about the product to be bought	opinion	context	domain						x	0	1	1

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
61	more influenced by current trends than by friends	opinion	context	user	x						1	0	1
61	when donwloading usuall just checking the titel of the movie and then downloading it	action	context	user						x	0	1	1
61	considers how much discount s/he can get when available	action	context	user	x						1	1	1
61	information about product that I sell: time is used the product, price I payed, fundamental product information	opinion	context	domain						x	0	1	1
9	uses pc for searching the web, write papers, analyze data, watch movies	action	context	user	x						0	1	1
9	has MP3-player and mobile	action	context	user	x						1	0	1
9	uses internet about 4 hours a day; always online	action	context	user	x						1	1	1
9	uses internet mainly for emails, cyworld, shopping, searching papers	action	context	user	x						1	1	1
9	When I buy clothes, I shop in the website that popular in girls,	action	context	user	x						1	1	1
9	buying electronic products, I use the website that can compare all the product's price at once (There's some of website that provide this service :http://www.danawa.com/ or http://www.enuri.com/)	action	context	user				x		x	1	1	1
9	buying electronic products, I use the website that can compare all the product's price at once (There's some of website that provide this service :http://www.danawa.com/ or http://www.enuri.com/)	action	context	user				x		x	1	1	1
9	if it is cheap one, I normally use Auction.	experience	context	competitor		x					1	1	1
9	price more important than product quality	opinion	context	domain	x						2	1	1
9	shopping cloths through Twang, Wizwid... I choose the website with my mood, so I can't remember much about them	action	context	user	x	x					1	0	1
9	I'm really lazy person, and hate bothersome things – like checking the price in other shopping mall to buy a product in cheaper price. If there is a 5% sale coupon, but has many process to get it – write down address or phone number, something like that – then I just give up and end it quickly.	action	context	user	x						1	1	1
9	shares files; mainly receives files from friends	action	context	user	x				x	x	2	2	1
9	Just ask to friends that do they have some kinds of movie or file, then they find it and send it to me.	action	context	user					x	x	1	1	1
9	favourite website: cyworld (easy to connect to friends and get personal information)	experience	context	competitor	x	x					1	1	2

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
9	content more important than colour of website	opinion	product	usp			x	x		x	1	1	1
9	regarding design: Simpler is better. If there a lot of decoration, it takes longer loading time. I visit some website to get information not to just see the web or get some emotional feeling. I just shut down the website, if it takes long time.	opinion	product	usp			x	x		x	2	1	2
9	I hate to see the all complex product details. It's too dizzy.	opinion	context	domain			x	x		x	1	2	0
9	So I prefer reading reviews or hot product,. It is helpful for my decision. If there is no review I can't trust the product so I don't buy it.	action	context	domain				x		x	1	1	2
9	If there is a space for users to discuss about the product – like best review, hot product – it will more helpful.	opinion	product	function				x	x	x	2	2	1
9	pays mainly with credit card	action	context	user				x			1	1	1
9	uses mobile payment for services of mobile company (e.g. coloring)	action	context	domain	x						1	1	1
9	does not use mobile internet	action	context	user	x						1	1	1
9	I have no experience getting angry about the quality of files, because I didn't pay for it. The biggest reason that I receive files from my friend is to avoid annoying thing, and also those files are filtered by my friend's review. So those movies have more chance to have better quality than files in P2P.	experience	context	user	x						2	1	1
9	does not contact seller	action	context	user	x				x		1	1	0
9	info for buying decision: I just see the product. But if I have to choose, I choose credit of seller – grading system according to the credit in big shopping malls. If the same price I'll buy the product from who has higher class.	action	context	user				x		x	2	2	2
9	info for buying decision: I just see the product. But if I have to choose, I choose credit of seller – grading system according to the credit in big shopping malls. If the same price I'll buy the product from who has higher class.	action	product	function				x		x	1	1	1
9	group experience1: One is provided by website. It discounts the price if there are more people want to buy (Just join the existing group). More people make it cheaper.	experience	context	competitor		x					2	2	1
9	group experience2: Another one is just with my friends, to saving delivery cost (make a new group).	experience	context	domain	x						1	1	1
9	does not use help-desk or suggestion-box	action	context	user					x		1	1	0
9	hot products appeal appeal to me	opinion	context	user				x		x	1	2	1
9	infromation influecing buying decision: comments, recommendations, seller grades	opinion	context	user				x		x	1	1	2

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
9	for group-shopping group composition not important	opinion	context	domain	x						1	1	1
15	he thinks buyer's information is not important to seller.	opinion	context	domain						x	1	1	1
15	doesn't buy often via internet; neither expensive stuff	action	context	user	x						1	1	1
15	always reads comments and rankings prior to buying online	action	context	user				x		x	1	1	1
15	credibility of seller most important	opinion	context	domain	x						1	1	1
15	doesn't use credit card or remmittance from his account	action	context	user	x						1	1	1
15	reads some news on counterfeits sold on web	opinion	context	domain	x						1	1	1
15	payment credibility and method is most important	opinion	context	domain	x			x		x	0	1	1
15	important to improve, preserve credibility (through BBS or group reviews	opinion	product	usp	x			x	x		1	2	2
15	detailed product description also essential	opinion	context	domain						x	0	1	1
15	if seller information not perfect s/he loses credibility	opinion	context	domain	x					x	1	1	1
12	no MP3 player - uses car-radio mainly	action	context	user	x						1	0	1
12	downloads MP3 through legal downloading service to computer	action	context	user	x						1	1	1
12	shops usually through auction.co.kr and gmarket.co.kr. They are cheap and reliable	experience	context	competitor		x					1	1	2
12	sometimes compares prices through danawa.co.kr	action	context	domain				x		x	2	1	2
12	usually shops digityl devices and car accessoirs	action	context	user	x						1	1	1
12	sold tennis racket and instrument; selling easy but prices need to be really low	action	context	user	x						1	1	1
12	favourite website: naver (familiar; google too simple)	experience	context	competitor		x	x	x			2	1	2
12	favourite colours: blue & green (easy to read)	opinion	product	domain			x				1	1	2
12	usually uses credit card for online payments	action	context	user							1	1	1
12	for DM flat-rate system (abonnement) appreciated; more convenient for small payments	opinion	context	domain				x			2	1	1
12	free media-services (illegal) usually cannot guarantee quality of products	opinion	context	domain	x			x			1	1	1
12	idea reverse auction: buyers put up in auction what they want and sellers skim these offers (easy to see what buyers want, easy for buyers to pick the cheapest price)	opinion	context	domain	x						2	0	1
12	would use phone and chat to communicat with online-group; in official meetings maybe BBS	opinion	context	domain				x	x		1	2	1
12	not important to communicate with service provider	opinion	product	function	x				x		1	1	1
12	helpdesk only rarely needed	opinion	context	user						x	1	1	1

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
12	uses CMA banking for online payments	action	context	user				x			1	1	0
12	dosn't use mobile payment; hard to determine real costs as all costs are intermingled	action	context	user	x			x			1	1	1
12	mobile web surfing too expensive and too slow; computer better	action	context	infrastructure	x						1	1	1
12	comments and seller-history important for making buying decision	opinion	context	domain				x		x	1	2	1
12	prefers phone or text message to get into contact with seller; email takes too long	opinion	context	user					x		1	2	2
12	as a seller would provide picture and product specification	opinion	context	domain						x	0	1	1
12	as seller would like to know buyers consumption preferences; but buyer information not necessary	opinion	context	domain						x	2	2	1
12	thinks i-Tunes is good DM-site; high quality & reliable	experience	context	competitor		x					1	1	1
12	suggest some incentives for buyers; e.g. free-points, free coupons in candy-boxes	opinion	product	usp				x			1	1	1
12	important to make buying process easy, even for only 1 MP3	opinion	product	usp			x	x			0	1	0
12	people use price comparison-sites a lot; thus price is important	opinion	context	domain				x		x	1	1	1
12	costs for product delivery very cheap in Korea; people will shop more in future	opinion	context	infrastructure	x						1	0	1
4	uses internet for surfing (fun, comics)	action	context	user	x						0	1	1
4	preferred websites: Daum, Naver	experience	context	competitor		x					1	1	1
4	has MP3-player and mobile	action	context	user	x						1	0	1
4	shops for cloths shoes and digial devices online	action	context	user	x						1	1	1
4	uses P2P to get DM	action	context	user	x						1	1	1
4	favourite colours on the web: blue & green (it's cool)	opinion	product	domain			x				1	1	2
4	good product representation needs noticable information or something new/novel	opinion	context	domain			x	x		x	0	1	1
4	likes product representation in Sinsaegae-Malls	experience	context	domain	x		x				1	1	1
4	needs real size images of products, when online-shopping	opinion	product	function				x		x	1	1	1
4	never tried to sell something online	action	context	user	x						1	1	1
4	pays through internet banking only	action	context	user				x			1	1	1
4	usually watches movies in the theatre, but uses P2P also	action	context	user	x						1	0	1
4	even though P2P is illegal it is not a problem for me	opinion	context	user	x						2	1	1
4	communication with seller through reply-system (forum) appreciated (easy to check)	opinion	product	function				x	x		2	2	2
4	seller ratings not that important; product more important	opinion	context	domain						x	1	1	1
4	appreciates group-shopping for better bargain	opinion	context	user	x						1	0	1

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
4	does not need help-desk or suggestion-box; suggestion boxes not objective	opinion	context	user						x	1	1	1
4	seller history/user comments interesting for some products (e.g. digital media, movies, etc.) but for other (e.g. cloths) not (no personality behind those)	opinion	context	domain				x		x	1	1	2
4	important for seller to be easy to contact and to deliver high quality	opinion	context	domain	x			x			0	0	1
4	going to the cinema is important; doesn't like watching movies at home	action	context	user	x						1	0	1
4	considers legal downloads as necessary; i-Tunes as a good example	opinion	context	user	x	x					1	1	1
4	in auction too many sellers are available (no restricton of sellers like in real mall); one clear format and sellers adhering to that would be appreciated	opinion	context	domain	x					x	2	0	1
4	most price comparisons do not show big differences; hence rather buying at big and reliable markets	opinion	context	domain	x		x	x			2	1	1
4	differentiation potentials on the web: price>design>...	opinion	context	domain			x	x			0	1	1
56	uses pc for assignments, internet surfing, chatting (MSN)	action	context	user	x						0	1	1
56	has mobile but no MP3	action	context	user	x						1	0	1
56	shops online through Auction and Gmarket	experience	context	competitor		x					1	1	1
56	usually shops cloths and music online (cheap and time-saving)	action	context	user	x						1	1	1
56	willing to wait 3-5 days till product delivery	opinion	context	user	x						2	1	1
56	uses FTP for fileserving and downloading movies; doesn't share MP3	action	context	user	x						1	1	1
56	never tried to sell something online	action	context	user	x						1	1	1
56	favourite websites: Daum (comic part)/ Naver (search engine)	experience	context	competitor		x					1	1	1
56	no favourite web-colours; cool images appreciated	opinion	product	domain			x				1	1	1
56	important for shopping: product representation and service	opinion	context	domain						x	0	1	1
56	valuable function for online-shopping: price-comparison	opinion	product	function				x		x	1	1	1
56	ratings and comments of users are not reliable	opinion	context	domain	x						1	1	1
56	uses internet-banking for online payments	action	context	user				x			1	1	1
56	generally trusts sellers, but does not buy expensive products online	action	context	user	x						1	1	1
56	thinks group-shopping is interesting, but hesistant to join	opinion	context	user	x						1	0	1
56	would ask friends maybe to team up	opinion	context	user	x						1	1	1
56	would appreciate help-desk or suggestion-box, but hard to get answers through them	opinion	context	user						x	1	1	1

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
56	buying/selling statistics interesting, but not so influential on buying decision; product characteristics more important	opinion	context	domain						x	1	1	1
56	checks rather negative comments on seller; positive opinions could be manipulated by seller; maybe not independent view	opinion	context	domain	x			x		x	2	1	1
56	no special information needed for buying decision of DM	opinion	context	domain	x					x	1	1	1
51	uses pc for assignments, hobbies (soap operas, games)	action	context	user	x						0	1	1
51	has mobile and MP3	action	context	user	x						1	0	1
51	uses internet 3-4 hrs/day	action	context	user	x						1	1	1
51	shops digital devices and books online; but no digital media	action	context	user	x						1	1	1
51	online-shopping very easy and convenient; but some delivery charges are to be payed	opinion	context	domain	x						1	1	1
51	shares files, but only documentary films; never copy-right protected ones	action	context	user	x						1	1	2
51	sold some electronic devices and pc-components online	action	context	user	x						1	1	1
51	sometimes creates DM; movie and editing the media; usually sources are not his/hers	action	context	user	x						2	1	1
51	sometimes uploads pictures, then people use and share them	action	context	user	x						2	1	1
51	uses mobile for payments	action	context	user				x			1	1	1
51	uses phone, email or BBS to contact selles; email makes tracking conversation very convenient	action	context	user				x	x		1	1	2
51	important for online-shops: 1) is it the correct file; 2) does it download fast	opinion	product	function				x		x	1	2	1
51	to build trust contacts sellers directly (not open to public); does not rate sellers	action	context	user	x				x		1	1	2
51	sometimes considers ratings by strangers, or friends' opinions	action	context	user				x		x	1	1	1
51	appreciates group-shopping for better bargain	opinion	context	user	x						1	0	1
51	uses chat and BBS to communicate with groups; off-line meeting not necessary	action	context	user				x	x		1	2	2
51	usually FAQ sufficient; help-desk or suggestion box not necessary	opinion	context	domain						x	1	1	2
51	would provide specification and detailed information about product as a seller	opinion	context	domain						x	0	1	1
51	always compares functions of product s/he wants to buy	opinion	context	user				x		x	1	1	1
51	buying decision influenced by: less options, low price, good quality	opinion	context	user						x	1	1	1
51	often uses free download systems; reluctant to use paid systems	action	context	user	x						1	1	1
51	important to share good information about products and use them selectively	opinion	context	domain					x	x	2	1	1

Table 11.57: Puzzle Interview - Korea

User	role	scenario	Idea	category	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
6	buyer	A	mediaplayer	essential feature	opinion	product	function				x			1	2	1
6	buyer	A	rating	essential feature	opinion	product	function				x			1	2	1
6	buyer	A	product category	essential feature	opinion	product	function				x			1	2	1
6	buyer	A	profile	essential feature	opinion	product	function				x			1	2	1
6	buyer	A	search	essential feature	opinion	product	function				x			1	2	1
6	buyer	A	avatar	essential feature	opinion	product	function				x			1	2	1
6	buyer	A	email	essential feature	opinion	product	function				x			1	2	1
6	buyer	A	community/interest-group	essential feature	opinion	product	function				x			1	2	1
6	buyer	A	product description	important feature	opinion	product	function				x			1	2	1
6	buyer	A	invite a friend	important feature	opinion	product	function				x			1	2	1
6	buyer	A	payment	important feature	opinion	product	function				x			1	2	1
6	buyer	A	friends list	important feature	opinion	product	function				x			1	2	1
6	buyer	A	download	important feature	opinion	product	function				x			1	2	1
6	buyer	A	chat	unimportant feature	opinion	product	function				x			1	2	1
6	buyer	A	forum/BBS	unimportant feature	opinion	product	function				x			1	2	1
6	buyer	A	listview	unimportant feature	opinion	product	function				x			1	2	1
6	buyer	A	hot products	unimportant feature	opinion	product	function				x			1	2	1
6	buyer	A	observed products/items	unimportant feature	opinion	product	function				x			1	2	1
6	buyer	A	audio/video stream	unimportant feature	opinion	product	function				x			1	2	1
6	buyer	A	podcast	unimportant feature	opinion	product	function				x			1	2	1
6	buyer	A	rating and content is not that important for profile as buyers don't offer products themselves	idea	opinion	product	function				x			1	1	1
6	buyer	A	categorization of the buyer's favourites and interests is always important for all fields	idea	opinion	product	function				x			1	1	1
6	buyer	A	information only categorized by interest may lead to insufficient imformation-supply for user	idea	opinion	product	function				x		x	1	2	1
6	buyer	A	mailing to a friend seems like advertising => not good	idea	opinion	context	user	x				x	x	1	2	1

User	role	scenario	Idea	category	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
6	buyer	B	mediaplayer	essential feature	opinion	product	function				x			1	2	1
6	buyer	B	invite a friend	essential feature	opinion	product	function				x			1	2	1
6	buyer	B	product description	essential feature	opinion	product	function				x			1	2	1
6	buyer	B	download	essential feature	opinion	product	function				x			1	2	1
6	buyer	B	payment	essential feature	opinion	product	function				x			1	2	1
6	buyer	B	rating	essential feature	opinion	product	function				x			1	2	1
6	buyer	B	search	essential feature	opinion	product	function				x			1	2	1
6	buyer	B	listview	essential feature	opinion	product	function				x			1	2	1
6	buyer	B	audio/video stream	essential feature	opinion	product	function				x			1	2	1
6	buyer	B	product category	important feature	opinion	product	function				x			1	2	1
6	buyer	B	email	important feature	opinion	product	function				x			1	2	1
6	buyer	B	hot products	important feature	opinion	product	function				x			1	2	1
6	buyer	B	community/interest-group	unimportant feature	opinion	product	function				x			1	2	1
6	buyer	B	friends list	unimportant feature	opinion	product	function				x			1	2	1
6	buyer	B	profile	unimportant feature	opinion	product	function				x			1	2	1
6	buyer	B	podcast	unimportant feature	opinion	product	function				x			1	2	1
6	buyer	B	chat	unimportant feature	opinion	product	function				x			1	2	1
6	buyer	B	observed products/items	unimportant feature	opinion	product	function				x			1	2	1
6	buyer	B	avatar	unimportant feature	opinion	product	function				x			1	2	1
6	buyer	B	information and advices from friends is important as friends have credibility	idea	opinion	context	domain					x	x	1	1	2
6	buyer	B	function 'rating' for credibility is important => more important than the rating of the quality of content	idea	opinion	context	domain	x					x	2	2	2
6	buyer	B	seller profile and background information not important => buyers only want the content (media)	idea	opinion	context	domain						x	2	2	2
6	buyer	B	function 'podcast' would be needed for downloading music	idea	opinion	product	function				x			1	1	1
6	buyer	B	buyers are rather interested in genre or particular singer => rating/grading not essential for buyer	idea	opinion	context	domain						x	2	2	2

User	role	scenario	Idea	category	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
6	buyer	B	but to present prefences to other people or gather new people grade might be necessary	idea	opinion	context	domain						x	1	1	0
2	buyer	A	hot products	essential feature	opinion	product	function				x			1	2	1
2	buyer	A	profile	essential feature	opinion	product	function				x			1	2	1
2	buyer	A	search	essential feature	opinion	product	function				x			1	2	1
2	buyer	A	mediaplayer	essential feature	opinion	product	function				x			1	2	1
2	buyer	A	product category	essential feature	opinion	product	function				x			1	2	1
2	buyer	A	rating	essential feature	opinion	product	function				x			1	2	1
2	buyer	A	product description	essential feature	opinion	product	function				x			1	2	1
2	buyer	A	community/interest-group	essential feature	opinion	product	function				x			1	2	1
2	buyer	A	listview	essential feature	opinion	product	function				x			1	2	1
2	buyer	A	observed products/items	essential feature	opinion	product	function				x			1	2	1
2	buyer	A	payment	important feature	opinion	product	function				x			1	2	1
2	buyer	A	download	important feature	opinion	product	function				x			1	2	1
2	buyer	A	audio/video stream	important feature	opinion	product	function				x			1	2	1
2	buyer	A	forum/BBS	important feature	opinion	product	function				x			1	2	1
2	buyer	A	chat	unimportant feature	opinion	product	function				x			1	2	1
2	buyer	A	avatar	unimportant feature	opinion	product	function				x			1	2	1
2	buyer	A	email	unimportant feature	opinion	product	function				x			1	2	1
2	buyer	A	podcast	unimportant feature	opinion	product	function				x			1	2	1
2	buyer	A	invite a friend	unimportant feature	opinion	product	function				x			1	2	1
2	buyer	A	friends list	unimportant feature	opinion	product	function				x			1	2	1
2	buyer	A	function 'chatting' is private; no legal force for bargaining	idea	opinion	context	domain	x				x		1	1	1
2	buyer	A	function 'hot products' not necessary for all products (e.g. not for cloths)	idea	opinion	context	domain						x	1	1	1
2	buyer	A	function 'payment' not so important; will depend on seller	idea	opinion	context	domain						x	1	1	1
2	buyer	A	information about download of new products	idea	opinion	context	domain						x	1	1	0
2	buyer	A	function 'rating' more important to sellers; when buyers pay well their rating will go up	idea	opinion	context	domain						x	1	1	1

User	role	scenario	Idea	category	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
2	buyer	A	description of product should describe what buyers want; product spec's	idea	opinion	context	domain						x	1	1	0
2	buyer	A	buyer communities interesting to share information	idea	opinion	product	usp					x	x	1	1	1
2	buyer	A	for sharing information community better than forum	idea	opinion	product	usp					x	x	2	2	1
2	buyer	A	buyers to decide if they want to show what they habe bought on their profile	idea	opinion	product	usp				x	x	x	2	2	2
2	buyer	A	afraid of spam-mails when using email	idea	opinion	context	domain	x					x	1	1	1
2	buyer	B	rating	essential feature	opinion	product	function				x			1	2	1
2	buyer	B	community/interest-group	essential feature	opinion	product	function				x			1	2	1
2	buyer	B	product category	essential feature	opinion	product	function				x			1	2	1
2	buyer	B	listview	essential feature	opinion	product	function				x			1	2	1
2	buyer	B	observed products/items	essential feature	opinion	product	function				x			1	2	1
2	buyer	B	hot products	essential feature	opinion	product	function				x			1	2	1
2	buyer	B	profile	essential feature	opinion	product	function				x			1	2	1
2	buyer	B	mediaplayer	essential feature	opinion	product	function				x			1	2	1
2	buyer	B	audio/video stream	essential feature	opinion	product	function				x			1	2	1
2	buyer	B	download	essential feature	opinion	product	function				x			1	2	1
2	buyer	B	product description	essential feature	opinion	product	function				x			1	2	1
2	buyer	B	search	essential feature	opinion	product	function				x			1	2	1
2	buyer	B	forum/BBS	essential feature	opinion	product	function				x			1	2	1
2	buyer	B	payment	important feature	opinion	product	function				x			1	2	1
2	buyer	B	chat	important feature	opinion	product	function				x			1	2	1
2	buyer	B	invite a friend	important feature	opinion	product	function				x			1	2	1
2	buyer	B	friends list	important feature	opinion	product	function				x			1	2	1
2	buyer	B	avatar	unimportant feature	opinion	product	function				x			1	2	1
2	buyer	B	email	unimportant feature	opinion	product	function				x			1	2	1
2	buyer	B	podcast	unimportant feature	opinion	product	function				x			1	2	1
2	buyer	B	buyers should decide if they want to make observed items public	idea	opinion	context	usp				x	x	x	2	2	2
2	buyer	B	function 'search' should list up results according to rating	idea	opinion	product	function				x		x	1	2	2

User	role	scenario	Idea	category	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
2	buyer	B	seller recommendations could reduce buyers' shopping time	idea	opinion	product	usp				x		x	2	2	1
2	buyer	B	a movie about the product would be a good introduction	idea	opinion	product	usp						x	1	1	1
2	buyer	B	the product description should include buyer comments, product spec, functions, etc.	idea	opinion	context	domain						x	1	2	2
2	buyer	B	for urgent situations chatting is a valuable tool	idea	opinion	context	domain					x		1	2	2
2	buyer	B	useful to invite friends to chat	idea	opinion	product	function					x		1	1	1
2	buyer	B	function to download profile appreciated to preserve information even after closing the website	idea	opinion	product	usp				x			2	2	2
43	seller	A	rating	essential feature	opinion	product	function				x			1	2	1
43	seller	A	community/interest-group	essential feature	opinion	product	function				x			1	2	1
43	seller	A	audio/video stream	essential feature	opinion	product	function				x			1	2	1
43	seller	A	product description	essential feature	opinion	product	function				x			1	2	1
43	seller	A	listview	essential feature	opinion	product	function				x			1	2	1
43	seller	A	hot products	essential feature	opinion	product	function				x			1	2	1
43	seller	A	search	essential feature	opinion	product	function				x			1	2	1
43	seller	A	payment	essential feature	opinion	product	function				x			1	2	1
43	seller	A	forum/BBS	important feature	opinion	product	function				x			1	2	1
43	seller	A	mediaplayer	important feature	opinion	product	function				x			1	2	1
43	seller	A	product category	important feature	opinion	product	function				x			1	2	1
43	seller	A	podcast	important feature	opinion	product	function				x			1	2	1
43	seller	A	avatar	important feature	opinion	product	function				x			1	2	1
43	seller	A	profile	important feature	opinion	product	function				x			1	2	1
43	seller	A	friends list	important feature	opinion	product	function				x			1	2	1
43	seller	A	observed products/items	unimportant feature	opinion	product	function				x			1	2	1
43	seller	A	download	unimportant feature	opinion	product	function				x			1	2	1
43	seller	A	email	unimportant feature	opinion	product	function				x			1	2	1
43	seller	A	chat	unimportant feature	opinion	product	function				x			1	2	1
43	seller	A	invite a friend	unimportant feature	opinion	product	function				x			1	2	1

User	role	scenario	Idea	category	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
43	seller	A	function'rating' as most effective way to show how well are products sold to buyers	idea	opinion	context	domain						x	2	2	2
43	seller	A	interest group essential as buyers could find other people who want to buy the same product through the community	idea	opinion	context	domain					x	x	2	2	2
43	seller	A	the forum/BBS is not that important if rating and interest-group are well established; might be important communication tool for interest group, however	idea	opinion	context	domain					x	x	1	2	2
43	seller	A	a/v stream is essential as preview function	idea	opinion	context	domain						x	1	2	2
43	seller	A	function 'mediaplayer' not that important as it has ist limitations for previews opposed to streams; people might need a specific media player to play files	idea	opinion	context	domain				x			1	1	2
43	seller	A	function 'search' seems more important than product category as it might be quite cumbersome to search all categories for a product	idea	opinion	context	domain						x	2	2	1
43	seller	A	function 'list view' might be interesting if seller sells large amount of movies	idea	opinion	product	function						x	2	2	1
43	seller	A	the payment seems more important for buyers; as more convenient the more willing they will be to buy sth.	idea	opinion	context	domain			x	x			1	2	1
43	seller	A	a podcast might be more interesting than emails for adversiting products	idea	opinion	context	domain						x	2	2	2
43	seller	A	the avatar seems less important even though it might be useful to give buyers an impression about the seller	idea	opinion	product	usp						x	1	2	1
43	seller	A	the profile some information about the seller might enhance the trust of buyers	idea	opinion	context	domain	x					x	1	2	1
43	seller	A	function'hot products' essential to support impulsive buying	idea	opinion	product	usp	x					x	2	2	2
43	seller	A	the chat might be a bit annoying for sellers, if they need to answer all the questions of the buyers	idea	opinion	product	function					x		2	1	2
43	seller	A	the friendslist and invite a friend more intresting for buyers	idea	opinion	product	function				x			1	1	1
43	seller	B	avatar	essential feature	opinion	product	function				x			1	2	1
43	seller	B	profile	essential feature	opinion	product	function				x			1	2	1

User	role	scenario	Idea	category	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
43	seller	B	podcast	essential feature	opinion	product	function				x			1	2	1
43	seller	B	listview	essential feature	opinion	product	function				x			1	2	1
43	seller	B	hot products	essential feature	opinion	product	function				x			1	2	1
43	seller	B	payment	essential feature	opinion	product	function				x			1	2	1
43	seller	B	forum/BBS	essential feature	opinion	product	function				x			1	2	1
43	seller	B	product description	essential feature	opinion	product	function				x			1	2	1
43	seller	B	audio/video stream	essential feature	opinion	product	function				x			1	2	1
43	seller	B	mediaplayer	essential feature	opinion	product	function				x			1	2	1
43	seller	B	rating	essential feature	opinion	product	function				x			1	2	1
43	seller	B	community/interest-group	essential feature	opinion	product	function				x			1	2	1
43	seller	B	friends list	important feature	opinion	product	function				x			1	2	1
43	seller	B	search	important feature	opinion	product	function				x			1	2	1
43	seller	B	product category	important feature	opinion	product	function				x			1	2	1
43	seller	B	download	important feature	opinion	product	function				x			1	2	1
43	seller	B	chat	unimportant feature	opinion	product	function				x			1	2	1
43	seller	B	email	unimportant feature	opinion	product	function				x			1	2	1
43	seller	B	observed products/items	unimportant feature	opinion	product	function				x			1	2	1
43	seller	B	invite a friend	unimportant feature	opinion	product	function				x			1	2	1
43	seller	B	the friendslist not so important but might add to potential buyers	idea	opinion	product	function				x			1	1	1
43	seller	B	combination of profile and avatare important to establish some brand image for the buyer	idea	opinion	context	domain	x					x	2	1	1
43	seller	B	the search function not that important for seller, as buyers will get a lot of results what does not mean that they buy my product	idea	opinion	context	domain						x	2	2	1
43	seller	B	the podcast is an important advertisement mechanism; it will make the product more popular, add to the price and reputation of seller	idea	opinion	context	domain						x	2	2	2
43	seller	B	the combination of listview and hot products will support impulsive buying decisions	idea	opinion	product	usp	x			x		x	1	2	1
43	seller	B	regarding payment it is very important to buy the product with ease	idea	opinion	context	domain			x	x			1	1	1

User	role	scenario	Idea	category	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
43	seller	B	the forum/BBS is important as this is the place where the buyers opinions come together	idea	opinion	context	domain					x		1	1	1
43	seller	B	the product description is essential to attract buyers	idea	opinion	context	domain						x	1	1	1
43	seller	B	a/v streams will support impuslive buying; thus essential	idea	opinion	context	domain	x					x	1	1	1
3	seller	A	payment	essential feature	opinion	product	function				x			1	2	1
3	seller	A	product description	essential feature	opinion	product	function				x			1	2	1
3	seller	A	listview	essential feature	opinion	product	function				x			1	2	1
3	seller	A	hot products	essential feature	opinion	product	function				x			1	2	1
3	seller	A	audio/video stream	essential feature	opinion	product	function				x			1	2	1
3	seller	A	email	essential feature	opinion	product	function				x			1	2	1
3	seller	A	invite a friend	essential feature	opinion	product	function				x			1	2	1
3	seller	A	rating	important feature	opinion	product	function				x			1	2	1
3	seller	A	profile	important feature	opinion	product	function				x			1	2	1
3	seller	A	forum/BBS	important feature	opinion	product	function				x			1	2	1
3	seller	A	podcast	important feature	opinion	product	function				x			1	2	1
3	seller	A	download	important feature	opinion	product	function				x			1	2	1
3	seller	A	avatar	unimportant feature	opinion	product	function				x			1	2	1
3	seller	A	community/interest-group	unimportant feature	opinion	product	function				x			1	2	1
3	seller	A	mediaplayer	unimportant feature	opinion	product	function				x			1	2	1
3	seller	A	search	unimportant feature	opinion	product	function				x			1	2	1
3	seller	A	product category	unimportant feature	opinion	product	function				x			1	2	1
3	seller	A	friends list	unimportant feature	opinion	product	function				x			1	2	1
3	seller	A	chat	unimportant feature	opinion	product	function				x			1	2	1
3	seller	A	observed products/items	unimportant feature	opinion	product	function				x			1	2	1
3	seller	A	through avatar misunderstandings can occur	idea	opinion	product	function						x	1	1	0
3	seller	A	easy payment is important	idea	opinion	context	domain			x	x			1	1	1
3	seller	A	the rankings can be faked; not that reliable	idea	opinion	context	domain	x					x	2	2	1
3	seller	A	the profile is needed, but it can bias the buyer (positive and negative, depends)	idea	opinion	context	domain						x	1	1	1

User	role	scenario	Idea	category	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
3	seller	A	the listview is a basic and essential function	idea	opinion	product	function			x			x	1	1	1
3	seller	A	the podcast is an important advertisement mechanism; it will make the product more popular, add to the price and reputation of seller	idea	opinion	context	domain						x	2	2	2
3	seller	A	the hot products can attract many users and prove which seller is selling good	idea	opinion	context	domain						x	2	2	2
3	seller	A	problem with hot products might be that users might think seller sells only this product; reduces sales of other products	idea	opinion	product	function						x	2	2	2
3	seller	A	BBS can be open or anonymous; refund or exhange boards can give potential buyers a bad image about seller	idea	opinion	product	function					x	x	1	2	1
3	seller	A	a/v stream is essential as preview function (30 sec.)	idea	opinion	product	function						x	1	1	1
3	seller	A	the mediaplayer is problematic for preview; additional software might be needed	idea	opinion	product	function				x			2	2	1
3	seller	A	the search function is important that buyers can find my product	idea	opinion	product	function						x	1	1	1
3	seller	A	the search function also gives sellers the chance to expose more producst	idea	opinion	product	function					x		1	1	1
3	seller	A	sellers won't need a friends-list (no other sellers might ne friends => competitors)	idea	opinion	context	domain					x		1	2	1
3	seller	A	the chat is not good for the dealer; may expose ones weakpoints and make buyers bargain a lot	idea	opinion	context	domain					x		2	2	2
3	seller	A	the 'observed products' seems not good for sellers, as buyers will see only limited offers (the ones that have been obsevred only)	idea	opinion	product	function						x	1	1	0
3	seller	A	the email important to contact seller	idea	opinion	context	domain					x		1	1	1
3	seller	A	function 'invite a friend' might be effective for advertisements (more direct than BBS)	idea	opinion	context	domain					x		2	2	2
3	seller	B	podcast	essential feature	opinion	product	function				x			1	2	1
3	seller	B	email	essential feature	opinion	product	function				x			1	2	1
3	seller	B	audio/video stream	essential feature	opinion	product	function				x			1	2	1
3	seller	B	invite a friend	essential feature	opinion	product	function				x			1	2	1
3	seller	B	product description	essential feature	opinion	product	function				x			1	2	1

User	role	scenario	Idea	category	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
3	seller	B	hot products	essential feature	opinion	product	function				x			1	2	1
3	seller	B	payment	essential feature	opinion	product	function				x			1	2	1
3	seller	B	forum/BBS	important feature	opinion	product	function				x			1	2	1
3	seller	B	download	important feature	opinion	product	function				x			1	2	1
3	seller	B	rating	important feature	opinion	product	function				x			1	2	1
3	seller	B	listview	important feature	opinion	product	function				x			1	2	1
3	seller	B	avatar	important feature	opinion	product	function				x			1	2	1
3	seller	B	community/interest-group	important feature	opinion	product	function				x			1	2	1
3	seller	B	search	important feature	opinion	product	function				x			1	2	1
3	seller	B	profile	unimportant feature	opinion	product	function				x			1	2	1
3	seller	B	observed products/items	unimportant feature	opinion	product	function				x			1	2	1
3	seller	B	mediaplayer	unimportant feature	opinion	product	function				x			1	2	1
3	seller	B	friends list	unimportant feature	opinion	product	function				x			1	2	1
3	seller	B	chat	unimportant feature	opinion	product	function				x			1	2	1
3	seller	B	product category	unimportant feature	opinion	product	function				x			1	2	1
3	seller	B	function 'podcast' useful for official announcements	idea	opinion	context	domain						x	1	2	1
3	seller	B	instead of seller profile open forum/BBS might provide valuable informantion for buyers	idea	opinion	product	usp						x	2	2	2
3	seller	B	the rating important for buyers' buying decision; enhances trust	idea	opinion	context	domain	x					x	2	2	2
3	seller	B	functions product category and search make it easy for buyers for finding products, but also reduce the chances of seeing other products	idea	opinion	context	domain						x	1	1	1
3	seller	B	function list view also reduces chance to show more products	idea	opinion	context	domain						x	1	1	1
68	buyer	A	profile	essential feature	opinion	product	function				x			1	2	1
68	buyer	A	avatar	essential feature	opinion	product	function				x			1	2	1
68	buyer	A	friends list	essential feature	opinion	product	function				x			1	2	1
68	buyer	A	product category	essential feature	opinion	product	function				x			1	2	1
68	buyer	A	observed products/items	essential feature	opinion	product	function				x			1	2	1

User	role	scenario	Idea	category	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
68	buyer	A	invite a friend	essential feature	opinion	product	function				x			1	2	1
68	buyer	A	community/interest-group	essential feature	opinion	product	function				x			1	2	1
68	buyer	A	audio/video stream	essential feature	opinion	product	function				x			1	2	1
68	buyer	A	podcast	unimportant feature	opinion	product	function				x			1	2	1
68	buyer	A	download	unimportant feature	opinion	product	function				x			1	2	1
68	buyer	A	hot products	unimportant feature	opinion	product	function				x			1	2	1
68	buyer	A	payment	unimportant feature	opinion	product	function				x			1	2	1
68	buyer	A	listview	unimportant feature	opinion	product	function				x			1	2	1
68	buyer	A	chat	unimportant feature	opinion	product	function				x			1	2	1
68	buyer	A	mediaplayer	unimportant feature	opinion	product	function				x			1	2	1
68	buyer	A	rating	unimportant feature	opinion	product	function				x			1	2	1
68	buyer	A	search	unimportant feature	opinion	product	function				x			1	2	1
68	buyer	A	email	unimportant feature	opinion	product	function				x			1	2	1
68	buyer	A	forum/BBS	unimportant feature	opinion	product	function				x			1	2	1
68	buyer	A	product description	unimportant feature	opinion	product	function				x			1	2	1
68	buyer	A	the profile and avatar useful to show other people who I am; does not want to upload own picture	idea	opinion	context	user	x					x	1	2	1
68	buyer	A	does not want to open email to public	idea	opinion	context	user	x					x	2	2	2
68	buyer	A	function email necessary to communicate directly	idea	opinion	context	domain					x		1	1	1
68	buyer	A	the friends-list nice to see other buyers and fun to surf	idea	opinion	product	usp					x	x	2	2	2
68	buyer	A	function 'hot products' not needed; just makes the page messy	idea	opinion	product	design			x			x	2	2	1
68	buyer	A	easy payment is important; but not necessary for profile; no need to expose that	idea	opinion	context	domain						x	1	1	1
68	buyer	A	the chat is convenient to communicate with sellers; in Gmarket she uses MSN to communicate with seller	idea	action	context	domain		x			x		2	2	2
68	buyer	A	interest group useful to go to other buyers profiles	idea	opinion	product	usp					x	x	1	2	2
68	buyer	A	for interestgroup history appreciated; want to know where I am and who I visited	idea	opinion	product	function				x		x	2	2	2
68	buyer	A	a/v stream important for preview	idea	opinion	product	function						x	1	1	1

User	role	scenario	Idea	category	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
68	buyer	A	requests function to comment of products, e.g. as BBS	idea	opinion	product	function					x	x	1	2	1
68	buyer	A	would appreciate to play background music on own profile; but not essential	idea	opinion	product	function	x		x				2	2	2
68	buyer	A	on profile not BBS needed, does not need to leave messages on profile	idea	opinion	product	usp					x		2	2	2
68	buyer	A	regarding streamed media: audio stream sufficient; video-strean too slow	idea	opinion	context	infrastructure				x			1	2	1
68	buyer	B	search	essential feature	opinion	product	function				x			1	2	1
68	buyer	B	community/interest-group	essential feature	opinion	product	function				x			1	2	1
68	buyer	B	audio/video stream	essential feature	opinion	product	function				x			1	2	1
68	buyer	B	observed products/items	essential feature	opinion	product	function				x			1	2	1
68	buyer	B	payment	essential feature	opinion	product	function				x			1	2	1
68	buyer	B	download	essential feature	opinion	product	function				x			1	2	1
68	buyer	B	mediaplayer	essential feature	opinion	product	function				x			1	2	1
68	buyer	B	product category	essential feature	opinion	product	function				x			1	2	1
68	buyer	B	forum/BBS	essential feature	opinion	product	function				x			1	2	1
68	buyer	B	rating	essential feature	opinion	product	function				x			1	2	1
68	buyer	B	product description	essential feature	opinion	product	function				x			1	2	1
68	buyer	B	listview	essential feature	opinion	product	function				x			1	2	1
68	buyer	B	friends list	important feature	opinion	product	function				x			1	2	1
68	buyer	B	podcast	important feature	opinion	product	function				x			1	2	1
68	buyer	B	email	important feature	opinion	product	function				x			1	2	1
68	buyer	B	hot products	unimportant feature	opinion	product	function				x			1	2	1
68	buyer	B	chat	unimportant feature	opinion	product	function				x			1	2	1
68	buyer	B	invite a friend	unimportant feature	opinion	product	function				x			1	2	1
68	buyer	B	profile	unimportant feature	opinion	product	function				x			1	2	1
68	buyer	B	avatar	unimportant feature	opinion	product	function				x			1	2	1

User	role	scenario	Idea	category	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
68	buyer	B	habit of shopping - searching -> find the interest group's opinions -> preview -> can find the item at the observe product pages -> payment -> download -> use media player	idea	opinion	context	user	x				x	x	2	2	2
68	buyer	B	minor items better to be found through product category rather than search	idea	opinion	product	function						x	1	2	1
68	buyer	B	BBS important to get additional information about product/seller; but rating is more convenient	idea	opinion	context	domain						x	2	2	2
68	buyer	B	the listview is not necessary; seems inconvenient	idea	opinion	product	function						x	1	2	1
68	buyer	B	the hot product not necessary; just advertisement	idea	opinion	context	domain						x	2	2	2
68	buyer	B	to communicate with seller through BBS appreciated	idea	opinion	product	usp					x		1	2	2
7	seller	A	payment	essential feature	opinion	product	function				x			1	2	1
7	seller	A	product description	essential feature	opinion	product	function				x			1	2	1
7	seller	A	rating	essential feature	opinion	product	function				x			1	2	1
7	seller	A	profile	essential feature	opinion	product	function				x			1	2	1
7	seller	A	observed products/items	essential feature	opinion	product	function				x			1	2	1
7	seller	A	hot products	essential feature	opinion	product	function				x			1	2	1
7	seller	A	community/interest-group	essential feature	opinion	product	function				x			1	2	1
7	seller	A	forum/BBS	essential feature	opinion	product	function				x			1	2	1
7	seller	A	product category	essential feature	opinion	product	function				x			1	2	1
7	seller	A	search	important feature	opinion	product	function				x			1	2	1
7	seller	A	audio/video stream	important feature	opinion	product	function				x			1	2	1
7	seller	A	email	important feature	opinion	product	function				x			1	2	1
7	seller	A	mediaplayer	important feature	opinion	product	function				x			1	2	1
7	seller	A	chat	important feature	opinion	product	function				x			1	2	1
7	seller	A	friends list	important feature	opinion	product	function				x			1	2	1
7	seller	A	invite a friend	important feature	opinion	product	function				x			1	2	1
7	seller	A	download	unimportant feature	opinion	product	function				x			1	2	1
7	seller	A	podcast	unimportant feature	opinion	product	function				x			1	2	1

User	role	scenario	Idea	category	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
7	seller	A	listview	unimportant feature	opinion	product	function				x			1	2	1
7	seller	A	avatar	unimportant feature	opinion	product	function				x			1	2	1
7	seller	A	function friendlist is useful for inquiering [?cannot read word?] & getting information	idea	opinion	product	function					x	x	2	2	1
7	seller	A	the avatar seems more essential to desrcribe users and less for selling the product	idea	opinion	context	domain						x	1	2	1
7	seller	A	the payment would be good to be offered on first page to make customer buy more instantly	idea	opinion	product	usp			x	x		x	2	2	2
7	seller	A	the commnunity service seems good for exchanging purchasing experiences	idea	opinion	context	domain					x		1	2	2
7	seller	A	the listview seems only relevant for downloading files but not for the profile itself	idea	opinion	context	domain				x		x	2	2	2
7	seller	A	the payment very important => safe and conveinient payment required	idea	opinion	context	domain	x		x	x			1	1	1
7	seller	A	the rating important to judge sellers credibility	idea	opinion	context	domain	x					x	1	2	2
7	seller	A	the product description very important on seller side => related to rating	idea	opinion	context	domain	x					x	1	2	2
7	seller	A	the observed products/items is useful for searching items as a part of selling	idea	opinion	product	usp						x	1	2	1
7	seller	A	the media-player and A/V-stream nice for buying media and movies, but not essential => most important thing for buying decision is the product description	idea	opinion	product	function						x	1	2	1
7	seller	B	product description	essential feature	opinion	product	function				x			1	2	1
7	seller	B	audio/video stream	essential feature	opinion	product	function				x			1	2	1
7	seller	B	mediaplayer	essential feature	opinion	product	function				x			1	2	1
7	seller	B	rating	essential feature	opinion	product	function				x			1	2	1
7	seller	B	payment	essential feature	opinion	product	function				x			1	2	1
7	seller	B	community/interest-group	essential feature	opinion	product	function				x			1	2	1
7	seller	B	search	important feature	opinion	product	function				x			1	2	1
7	seller	B	email	important feature	opinion	product	function				x			1	2	1
7	seller	B	product category	unimportant feature	opinion	product	function				x			1	2	1
7	seller	B	hot products	unimportant feature	opinion	product	function				x			1	2	1

User	role	scenario	Idea	category	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
7	seller	B	podcast	unimportant feature	opinion	product	function				x			1	2	1
7	seller	B	listview	unimportant feature	opinion	product	function				x			1	2	1
7	seller	B	avatar	unimportant feature	opinion	product	function				x			1	2	1
7	seller	B	friends list	unimportant feature	opinion	product	function				x			1	2	1
7	seller	B	chat	unimportant feature	opinion	product	function				x			1	2	1
7	seller	B	download	unimportant feature	opinion	product	function				x			1	2	1
7	seller	B	forum/BBS	unimportant feature	opinion	product	function				x			1	2	1
7	seller	B	invite a friend	unimportant feature	opinion	product	function				x			1	2	1
7	seller	B	observed products/items	unimportant feature	opinion	product	function				x			1	2	1
7	seller	B	profile	unimportant feature	opinion	product	function				x			1	2	1
7	seller	B	the product description as most important to reprsent products	idea	opinion	context	domain						x	1	1	1
7	seller	B	A/V-streams to additionally support product description	idea	opinion	product	usp						x	1	2	2
7	seller	B	convenient payment service needed => necessary for efficient site control	idea	opinion	product	usp			x	x			1	1	1
7	seller	B	the product category for effectively searching products	idea	opinion	product	function						x	1	2	1
58	seller	A	download	essential feature	opinion	product	function				x			1	2	1
58	seller	A	forum/BBS	essential feature	opinion	product	function				x			1	2	1
58	seller	A	observed products/items	essential feature	opinion	product	function				x			1	2	1
58	seller	A	audio/video stream	essential feature	opinion	product	function				x			1	2	1
58	seller	A	community/interest-group	essential feature	opinion	product	function				x			1	2	1
58	seller	A	chat	essential feature	opinion	product	function				x			1	2	1
58	seller	A	rating	essential feature	opinion	product	function				x			1	2	1
58	seller	A	product description	essential feature	opinion	product	function				x			1	2	1
58	seller	A	profile	essential feature	opinion	product	function				x			1	2	1
58	seller	A	hot products	essential feature	opinion	product	function				x			1	2	1
58	seller	A	search	essential feature	opinion	product	function				x			1	2	1
58	seller	A	mediaplayer	essential feature	opinion	product	function				x			1	2	1
58	seller	A	product category	important feature	opinion	product	function				x			1	2	1

User	role	scenario	Idea	category	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
58	seller	A	payment	important feature	opinion	product	function				x			1	2	1
58	seller	A	invite a friend	important feature	opinion	product	function				x			1	2	1
58	seller	A	email	important feature	opinion	product	function				x			1	2	1
58	seller	A	friends list	important feature	opinion	product	function				x			1	2	1
58	seller	A	podcast	unimportant feature	opinion	product	function				x			1	2	1
58	seller	A	avatar	unimportant feature	opinion	product	function				x			1	2	1
58	seller	A	listview	unimportant feature	opinion	product	function				x			1	2	1
58	seller	A	if possible to download product info people could check it anywhere anytime (e.g. on PDA)	idea	opinion	product	usp				x		x	2	2	2
58	seller	A	the product observation should include brief description of product	idea	opinion	product	function						x	2	2	2
58	seller	A	function 'community' for sharing information among early adopters useful	idea	opinion	product	usp					x	x	2	2	2
58	seller	A	reviews of people who really used the product useful	idea	opinion	context	domain						x	1	2	2
58	seller	A	for seller rating important to see reaction of customers	idea	opinion	context	domain						x	1	2	1
58	seller	A	the profile of the seller useful for enhancing trust of buyers	idea	opinion	context	domain	x					x	1	1	2
58	seller	A	the hot products support impulse buying	idea	opinion	product	function						x	1	1	1
58	seller	A	the a/v function and media-player useful for marketing the product	idea	opinion	context	domain					x	x	1	2	2
58	seller	A	for finding products search function more convenient than product category	idea	opinion	product	function						x	1	2	2
58	seller	A	for payment simplicity and diversity important	idea	opinion	product	usp			x	x			1	1	1
58	seller	A	for marketing and spread of word invita a friend function important; almost essential	idea	opinion	product	function					x	x	2	2	2
58	seller	A	the chat function more important in small markets for getting immediate answers; also interesting in big markets, but for small ones more essential	idea	opinion	context	domain					x		1	1	2
58	seller	A	function avatar not a good idea; users don't want that	idea	opinion	product	function			x			x	1	2	1
58	seller	A	the list view might make it too complicated to find stuff; easy more important	idea	opinion	product	function			x			x	1	2	2
58	seller	A	function like "user also bought" or this is new, also appreciated	idea	opinion	product	function				x		x	2	2	2

User	role	scenario	Idea	category	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
58	seller	B	audio/video stream	essential feature	opinion	product	function				x			1	2	1
58	seller	B	community/interest-group	essential feature	opinion	product	function				x			1	2	1
58	seller	B	chat	essential feature	opinion	product	function				x			1	2	1
58	seller	B	product description	essential feature	opinion	product	function				x			1	2	1
58	seller	B	forum/BBS	essential feature	opinion	product	function				x			1	2	1
58	seller	B	hot products	essential feature	opinion	product	function				x			1	2	1
58	seller	B	profile	essential feature	opinion	product	function				x			1	2	1
58	seller	B	rating	essential feature	opinion	product	function				x			1	2	1
58	seller	B	observed products/items	important feature	opinion	product	function				x			1	2	1
58	seller	B	download	important feature	opinion	product	function				x			1	2	1
58	seller	B	friends list	important feature	opinion	product	function				x			1	2	1
58	seller	B	product category	important feature	opinion	product	function				x			1	2	1
58	seller	B	invite a friend	important feature	opinion	product	function				x			1	2	1
58	seller	B	payment	important feature	opinion	product	function				x			1	2	1
58	seller	B	search	important feature	opinion	product	function				x			1	2	1
58	seller	B	mediaplayer	important feature	opinion	product	function				x			1	2	1
58	seller	B	email	unimportant feature	opinion	product	function				x			1	2	1
58	seller	B	podcast	unimportant feature	opinion	product	function				x			1	2	1
58	seller	B	avatar	unimportant feature	opinion	product	function				x			1	2	1
58	seller	B	listview	unimportant feature	opinion	product	function				x			1	2	1
58	seller	B	the chat makes sales more lively (like a visit); seller receives buyers mood; can communicate details	idea	opinion	context	domain					x	x	1	2	2
58	seller	B	BBS good to gather many people's opinion	idea	opinion	context	domain						x	1	2	2
58	seller	B	the profile enhances credibility/trust	idea	opinion	context	domain	x					x	1	1	1
58	seller	B	a/v stream to effectively communicate product details not able to communicte with words	idea	opinion	product	function						x	1	1	1
58	seller	B	the hot products can add to brand value	idea	opinion	product	function						x	2	2	1
58	seller	B	the downlaod has same advantage as A/V stream; but the risk of dublication	idea	opinion	context	domain	x						2	2	2

User	role	scenario	Idea	category	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
58	seller	B	the observed products/items like personalized hot products	idea	opinion	product	function						x	1	1	1
58	seller	B	the product categoryzation might easily become too complicated	idea	opinion	product	function			x	x		x	1	2	1
58	seller	B	the email os not needed when chat-function implemented	idea	opinion	product	function					x		1	2	2
32	buyer	A	mediaplayer	essential feature	opinion	product	function				x			1	2	1
32	buyer	A	audio/video stream	essential feature	opinion	product	function				x			1	2	1
32	buyer	A	podcast	essential feature	opinion	product	function				x			1	2	1
32	buyer	A	community/interest-group	essential feature	opinion	product	function				x			1	2	1
32	buyer	A	avatar	essential feature	opinion	product	function				x			1	2	1
32	buyer	A	profile	essential feature	opinion	product	function				x			1	2	1
32	buyer	A	"edisode" personal essay (new card)	essential feature	opinion	product	function				x			1	2	1
32	buyer	A	rating	important feature	opinion	product	function				x			1	2	1
32	buyer	A	forum/BBS	important feature	opinion	product	function				x			1	2	1
32	buyer	A	email	important feature	opinion	product	function				x			1	2	1
32	buyer	A	chat	important feature	opinion	product	function				x			1	2	1
32	buyer	A	hot products	important feature	opinion	product	function				x			1	2	1
32	buyer	A	observed products/items	important feature	opinion	product	function				x			1	2	1
32	buyer	A	friends list	unimportant feature	opinion	product	function				x			1	2	1
32	buyer	A	product description	unimportant feature	opinion	product	function				x			1	2	1
32	buyer	A	search	unimportant feature	opinion	product	function				x			1	2	1
32	buyer	A	payment	unimportant feature	opinion	product	function				x			1	2	1
32	buyer	A	product category	unimportant feature	opinion	product	function				x			1	2	1
32	buyer	A	download	unimportant feature	opinion	product	function				x			1	2	1
32	buyer	A	listview	unimportant feature	opinion	product	function				x			1	2	1
32	buyer	A	invite a friend	unimportant feature	opinion	product	function				x			1	2	1
32	buyer	A	the media-player must be accessible directly and easily	idea	opinion	product	function			x	x			1	1	1
32	buyer	A	the audio/videostream must be accessible directly and easily	idea	opinion	product	function			x	x			1	1	1
32	buyer	A	the community/interets group building to show my interests	idea	opinion	context	user					x		1	1	1

User	role	scenario	Idea	category	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
32	buyer	A	the avatar as another expression of myself in online-world	idea	opinion	context	user	x				x		1	0	1
32	buyer	A	the profile as most essential thing	idea	opinion	context	domain						x	1	1	1
32	buyer	A	small essay, diary or so to explain my experiences (e.g. blogg)	idea	opinion	product	function						x	2	2	1
32	buyer	A	the forum/BBS just to let out my opinions not to fully open myself	idea	opinion	context	domain					x	x	1	1	1
32	buyer	A	the rating as credit level	idea	opinion	context	domain	x					x	1	1	1
32	buyer	A	the hot products to show the goods that I need	idea	opinion	context	domain						x	1	1	1
32	buyer	A	the friends-list is private => no need to be shown on profile	idea	opinion	product	function	x					x	2	2	1
32	buyer	A	the product category is very general/known to everyone => no need to show on the profile	idea	opinion	context	domain						x	1	2	1
32	buyer	A	the listview; download, invite a friend to be considered useless on the profile => these don't express myself so I don't need them	idea	opinion	context	domain						x	1	1	1
32	buyer	B	audio/video stream	essential feature	opinion	product	function				x			1	2	1
32	buyer	B	mediaplayer	essential feature	opinion	product	function				x			1	2	1
32	buyer	B	search	essential feature	opinion	product	function				x			1	2	1
32	buyer	B	payment	essential feature	opinion	product	function				x			1	2	1
32	buyer	B	community/interest-group	essential feature	opinion	product	function				x			1	2	1
32	buyer	B	chat	essential feature	opinion	product	function				x			1	2	1
32	buyer	B	rating	essential feature	opinion	product	function				x			1	2	1
32	buyer	B	hot products	essential feature	opinion	product	function				x			1	2	1
32	buyer	B	observed products/items	essential feature	opinion	product	function				x			1	2	1
32	buyer	B	listview	essential feature	opinion	product	function				x			1	2	1
32	buyer	B	download	essential feature	opinion	product	function				x			1	2	1
32	buyer	B	product description	important feature	opinion	product	function				x			1	2	1
32	buyer	B	podcast	important feature	opinion	product	function				x			1	2	1
32	buyer	B	invite a friend	important feature	opinion	product	function				x			1	2	1
32	buyer	B	product category	important feature	opinion	product	function				x			1	2	1
32	buyer	B	forum/BBS	important feature	opinion	product	function				x			1	2	1

User	role	scenario	Idea	category	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
32	buyer	B	email	important feature	opinion	product	function				x			1	2	1
32	buyer	B	profile	unimportant feature	opinion	product	function				x			1	2	1
32	buyer	B	avatar	unimportant feature	opinion	product	function				x			1	2	1
32	buyer	B	friends list	unimportant feature	opinion	product	function				x			1	2	1
32	buyer	B	the search = fastest way to find stuff	idea	opinion	context	domain				x		x	1	1	1
32	buyer	B	the payment in various types will be more convenient	idea	opinion	context	domain				x			1	2	1
32	buyer	B	the community helps me to see who was looking for similar stuff	idea	opinion	context	domain						x	2	2	1
32	buyer	B	the chat with the seller to enhance my trust in him/her	idea	opinion	context	domain	x				x		1	2	2
32	buyer	B	(credit) rating important to judge reliability of seller	idea	opinion	context	domain	x					x	1	2	2
32	buyer	B	the chat and rating most important to build trust	idea	opinion	context	domain	x					x	2	2	2
32	buyer	B	the hot products are a believable indication of good products => there must be a reason why they are hot	idea	opinion	context	domain						x	2	2	2
32	buyer	B	the listview that is convenient for me to look at	idea	opinion	product	design			x				1	0	0
32	buyer	B	the download is the faster the better	idea	opinion	context	domain				x			1	1	1
32	buyer	B	the audio/videostream as an essential feature to buy dm	idea	opinion	context	domain						x	1	1	1
32	buyer	B	the podcast lets me trust the seller more	idea	opinion	context	domain	x					x	2	1	2
32	buyer	B	the forum/BBS to clearify open questions and poste problems	idea	opinion	context	domain					x		1	1	1
32	buyer	B	the profile; avatar: not relevant to know the sellers fundamental information => will not influence the product	idea	opinion	context	domain						x	1	2	2
32	buyer	B	the friends-list is a private thing => even though the seller has good friends that will not affect the product's quality	idea	opinion	product	usp	x					x	2	2	2
42	buyer	A	mediaplayer	essential feature	opinion	product	function				x			1	2	1
42	buyer	A	audio/video stream	essential feature	opinion	product	function				x			1	2	1
42	buyer	A	hot products	essential feature	opinion	product	function				x			1	2	1
42	buyer	A	payment	essential feature	opinion	product	function				x			1	2	1
42	buyer	A	observed products/items	essential feature	opinion	product	function				x			1	2	1
42	buyer	A	forum/BBS	essential feature	opinion	product	function				x			1	2	1

User	role	scenario	Idea	category	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
42	buyer	A	email	essential feature	opinion	product	function				x			1	2	1
42	buyer	A	chat	essential feature	opinion	product	function				x			1	2	1
42	buyer	A	community/interest-group	essential feature	opinion	product	function				x			1	2	1
42	buyer	A	friends list	essential feature	opinion	product	function				x			1	2	1
42	buyer	A	download	essential feature	opinion	product	function				x			1	2	1
42	buyer	A	product description	essential feature	opinion	product	function				x			1	2	1
42	buyer	A	product category	essential feature	opinion	product	function				x			1	2	1
42	buyer	A	avatar	important feature	opinion	product	function				x			1	2	1
42	buyer	A	search	important feature	opinion	product	function				x			1	2	1
42	buyer	A	podcast	unimportant feature	opinion	product	function				x			1	2	1
42	buyer	A	profile	unimportant feature	opinion	product	function				x			1	2	1
42	buyer	A	invite a friend	unimportant feature	opinion	product	function				x			1	2	1
42	buyer	A	friends list	unimportant feature	opinion	product	function				x			1	2	1
42	buyer	A	rating	unimportant feature	opinion	product	function				x			1	2	1
42	buyer	A	for observed products a brief description appreciated	idea	opinion	product	function						x	2	2	2
42	buyer	A	the avatar seems not realistic	idea	opinion	product	function	x						1	2	1
42	buyer	B	mediaplayer	essential feature	opinion	product	function				x			1	2	1
42	buyer	B	audio/video stream	essential feature	opinion	product	function				x			1	2	1
42	buyer	B	payment	essential feature	opinion	product	function				x			1	2	1
42	buyer	B	observed products/items	essential feature	opinion	product	function				x			1	2	1
42	buyer	B	forum/BBS	essential feature	opinion	product	function				x			1	2	1
42	buyer	B	listview	essential feature	opinion	product	function				x			1	2	1
42	buyer	B	rating	essential feature	opinion	product	function				x			1	2	1
42	buyer	B	hot products	essential feature	opinion	product	function				x			1	2	1
42	buyer	B	download	essential feature	opinion	product	function				x			1	2	1
42	buyer	B	product category	essential feature	opinion	product	function				x			1	2	1
42	buyer	B	product description	essential feature	opinion	product	function				x			1	2	1
42	buyer	B	community/interest-group	essential feature	opinion	product	function				x			1	2	1
42	buyer	B	search	essential feature	opinion	product	function				x			1	2	1

User	role	scenario	Idea	category	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
42	buyer	B	email	essential feature	opinion	product	function				x			1	2	1
42	buyer	B	chat	essential feature	opinion	product	function				x			1	2	1
42	buyer	B	avatar	important feature	opinion	product	function				x			1	2	1
42	buyer	B	podcast	important feature	opinion	product	function				x			1	2	1
42	buyer	B	profile	unimportant feature	opinion	product	function				x			1	2	1
42	buyer	B	invite a friend	unimportant feature	opinion	product	function				x			1	2	1
42	buyer	B	friends list	unimportant feature	opinion	product	function				x			1	2	1
42	buyer	B	the community can introduce new trends	idea	opinion	context	domain						x	2	2	2
42	buyer	B	the avatar is not realistic; gives no additional information	idea	opinion	product	function	x						1	2	2
42	buyer	B	th email good to get into contact with seller	idea	opinion	context	domain					x		1	2	2
40	seller	A	payment	essential feature	opinion	product	function				x			1	2	1
40	seller	A	mediaplayer	essential feature	opinion	product	function				x			1	2	1
40	seller	A	search	essential feature	opinion	product	function				x			1	2	1
40	seller	A	product category	essential feature	opinion	product	function				x			1	2	1
40	seller	A	product description	essential feature	opinion	product	function				x			1	2	1
40	seller	A	profile	essential feature	opinion	product	function				x			1	2	1
40	seller	A	rating	essential feature	opinion	product	function				x			1	2	1
40	seller	A	audio/video stream	essential feature	opinion	product	function				x			1	2	1
40	seller	A	forum/BBS	essential feature	opinion	product	function				x			1	2	1
40	seller	A	hot products	essential feature	opinion	product	function				x			1	2	1
40	seller	A	press page (new card)	essential feature	opinion	product	function				x			1	2	1
40	seller	A	observed products/items	essential feature	opinion	product	function				x			1	2	1
40	seller	A	invite a friend	important feature	opinion	product	function				x			1	2	1
40	seller	A	friends list	important feature	opinion	product	function				x			1	2	1
40	seller	A	community/interest-group	important feature	opinion	product	function				x			1	2	1
40	seller	A	download	important feature	opinion	product	function				x			1	2	1
40	seller	A	podcast	important feature	opinion	product	function				x			1	2	1
40	seller	A	email	important feature	opinion	product	function				x			1	2	1

User	role	scenario	Idea	category	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
40	seller	A	listview	important feature	opinion	product	function				x			1	2	1
40	seller	A	avatar	unimportant feature	opinion	product	function				x			1	2	1
40	seller	A	chat	unimportant feature	opinion	product	function				x			1	2	1
40	seller	A	BBS can eleminate worries or curiosity about product	idea	opinion	context	domain					x	x	2	2	2
40	seller	A	DM should be "touchable" before buying; podcast and a/v stream useful for that	idea	opinion	context	domain						x	1	2	1
40	seller	A	the profile enhances credibility/trust	idea	opinion	context	domain	x					x	1	2	1
40	seller	A	important to make it easy for user to find what he/she wants => search and product category needed	idea	opinion	context	domain						x	1	1	1
40	seller	A	the payment system needs to be easy and reliable	idea	opinion	product	usp			x	x			1	1	1
40	seller	A	the hot product will enhance sales by attracting people's attention	idea	opinion	product	function						x	1	1	1
40	seller	A	the product description is essential to attract buyers	idea	opinion	context	domain						x	1	1	1
40	seller	A	is sick of invite a friend functions; rarely uses it	idea	opinion	context	domain					x		2	2	1
40	seller	A	function 'community' would be good to share information; but not essential	idea	opinion	context	domain					x		2	2	2
40	seller	A	the download for downloading samples, overlaps with a/v-stream however	idea	opinion	context	domain				x			1	1	1
40	seller	A	the email function not necessary if BBS is implemented; sufficien to communicate with buyer	idea	opinion	product	function					x		2	2	1
40	seller	A	the listview is not needed when search and category are available; overlaps	idea	opinion	product	function						x	1	1	1
40	seller	A	the chat and avatar are too much; just a waste of time and not appealing	idea	opinion	context	domain	x				x	x	2	2	2
40	seller	A	to enhance product understanding connection to columns and articles about the product interesting (new card made)	idea	opinion	product	usp						x	2	2	2
40	seller	B	search	essential feature	opinion	product	function				x			1	2	1
40	seller	B	mediaplayer	essential feature	opinion	product	function				x			1	2	1
40	seller	B	product category	essential feature	opinion	product	function				x			1	2	1
40	seller	B	audio/video stream	essential feature	opinion	product	function				x			1	2	1
40	seller	B	product description	essential feature	opinion	product	function				x			1	2	1

User	role	scenario	Idea	category	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
40	seller	B	hot products	essential feature	opinion	product	function				x			1	2	1
40	seller	B	forum/BBS	essential feature	opinion	product	function				x			1	2	1
40	seller	B	podcast	essential feature	opinion	product	function				x			1	2	1
40	seller	B	chat	essential feature	opinion	product	function				x			1	2	1
40	seller	B	friends list	essential feature	opinion	product	function				x			1	2	1
40	seller	B	community/interest-group	essential feature	opinion	product	function				x			1	2	1
40	seller	B	avatar	essential feature	opinion	product	function				x			1	2	1
40	seller	B	invite a friend	essential feature	opinion	product	function				x			1	2	1
40	seller	B	observed products/items	essential feature	opinion	product	function				x			1	2	1
40	seller	B	press page (new card)	essential feature	opinion	product	function				x			1	2	1
40	seller	B	listview	important feature	opinion	product	function				x			1	2	1
40	seller	B	download	important feature	opinion	product	function				x			1	2	1
40	seller	B	payment	important feature	opinion	product	function				x			1	2	1
40	seller	B	email	important feature	opinion	product	function				x			1	2	1
40	seller	B	profile	important feature	opinion	product	function				x			1	2	1
40	seller	B	rating	important feature	opinion	product	function				x			1	2	1
40	seller	B	the a/v stream and mediaplayer important to introduce product to buyer	idea	opinion	context	domain						x	1	2	2
40	seller	B	the podcast, chat, avatar, community, invite a friend, etc. useful for advertising product	idea	opinion	context	domain					x		2	2	1
40	seller	B	the forum as communication tool between buyer and seller appreciated	idea	opinion	product	function					x		2	2	1
40	seller	B	the listview only useful when sorting the view of products I am seeing currently; for all products not useful	idea	opinion	product	function			x			x	1	1	1
40	seller	B	the profile seems more important when delivery takes a long time (for credibility)	idea	opinion	context	domain	x					x	2	1	1
40	seller	B	the press page (new card) should include comments/reviews written by experts	idea	opinion	product	usp				x		x	2	2	2

Table 11.58: Cultural Probes - Korea

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
18	downlowads single MP3 through Emule (P2P)	action	context	domain	x	x					1	1	1
18	downloads albums through webhard program: Sunfolder (pay per MB); perceived as legal => service illegal, however	action	context	domain	x	x					2	1	1
18	online shopping 3-4 times a month	action	context	domain	x						1	1	1
18	Books, Tickets : www.interpark.com	action	context	domain		x					1	1	1
18	Tickets : www.ticketlink.com	action	context	domain		x					1	1	1
18	Movie tickets : www.maxmovie.com	action	context	domain		x					1	1	1
18	Used thing : www.auction.co.kr	action	context	domain		x					1	1	1
18	Electronis equipments : www.interpark.com / www.gsehop.co.kr / The cheapest (small) site	action	context	domain		x					1	1	1
18	clothes : I buy clothes in online rarely because I can't trust quality and size of those	action	context	domain	x						1	1	1
18	compare prices through www.enuri.com / www.danawa.co.kr / Naver shopping	action	context	domain	x	x					1	1	1
18	uses desktop PC and laptop from morning to night (lab, classroom); iPod	action	context	user	x						1	1	1
20	does not download music; uses music streaming service (http://www.jukeon.com/ ; http://music.naver.com/)	action	context	domain	x	x					2	1	1
20	good search functions of music abonnement services	action	context	domain				x		x	1	2	1
20	price 3.000-10.000 WON/month; download more expensive	action	context	domain	x						1	1	1
20	enjoys the huge amount of files accessible through streaming service	action	context	domain	x					x	1	1	1
20	uses blogg that recommends songs for exploring new content	action	context	user						x	1	1	1
20	freinds use PC speaker, FM Radio, MD player, ipod or other mp3p to listen to music	action	context	user	x						1	1	1
20	I bought PC, keyboard, mouse, HDD, printer, T-shirts, blue jeans, books, mp3p, PMP, dry food, wires, socks, dental mirrors, clock, digital thermometer, digital hygrometer, GPS devices, Kick board, box furniture, body weight scale, digital camera and laptop computer.	action	context	user	x						1	1	1
20	General shopping-sites: www.auction.co.kr (cheapest); www.interpark.co,kr (clean, well organized); shopping.naver.com (price comparison)	action	context	domain		x					1	1	1
20	books: www.kyobobook.co.kr (fastest); www.yes24com (cheapest); book.naver.com (price comparison)	action	context	domain		x					1	1	1

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
20	digital devices; PC: www.danawa.com (price comparison); www.icoda.co.kr (fastest); www.dcinside.com (digital camera); www.pmpinside.com (PMP); www.nbinside.com (notebook)	action	context	domain		x					1	1	1
20	downloads movies through e-Donkey (P2P); www.clubbox.co.kr; www.folderplus.com	action	context	domain	x	x					2	1	1
20	watches soap opreas and documentory on TV; no Korean soaps => too much cliche	action	context	user	x						1	0	1
20	uses MSN to share files	action	context	domain	x						1	1	1
19	no feedback												
22	no feedback												
23	no feedback												
25	no feedback												
26	no feedback												

Table 11.59: Focus Gorups - Korea

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
16	Use melon(legal MP3 system)	action	context	user		x					1	1	1
16	hard to download old-fashioned music	experience	context	domain				x		x	1	1	1
16	uses images of intrerest-groups or clubs for own representation	action	context	user	x						1	0	1
16	sometimes people delete the logos on the pictures	action	context	user	x						1	0	1
16	books are different; never used eBooks	opinion	context	domain	x						1	1	1
16	hard to read on monitor	opinion	context	domain				x			0	0	1
16	legal download systems (e.g. DRM-protected) existing	experience	context	competitor		x					0	1	1
16	would appreciate service messegers for online markets	opinion	product	usp				x	x	x	2	2	1
16	comments on products like on Auction.com appreciated	opinion	product	function		x		x		x	1	2	2
16	importance to keep advertisement and communication of products very easy	opinion	product	usp			x	x		x	1	2	1
41	uses international P2P-systems	action	context	user	x						1	1	1
41	easy to use and to download media	opinion	product	function				x			1	2	1
41	MP3 streaming systems have the disadvantage that internet-connection is necessary	opinion	context	domain				x			0	0	1
41	boys never pay for videos or movies the watch	opinion	context	user	x						1	0	1
41	advertisements for creators/sellers of DM important	opinion	product	usp				x		x	0	1	1

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
41	appreciates community-bulding	opinion	product	usp				x	x		2	2	1
41	for some movies netizens write critiques about the movie on blogs	action	context	user	x			x			1	1	1
41	information about the product important	opinion	product	function						x	0	1	1
41	allow evaluation of product prior to buying it	opinion	product	usp				x		x	1	1	0
41	advertise best-sellers and hot products	opinion	product	function				x		x	1	1	1
41	administrator to manage and controll online sales necessary	opinion	product	function				x		x	2	2	1
74	Use melon(legal MP3 system)	action	context	user		x					1	1	1
74	thinks there are too many limitations in P2P search	opinion	context	domain				x		x	1	1	1
74	boys pay for online content also	opinion	context	user	x						1	0	1
74	easy and fast download on paysites	experience	context	competitor				x			1	1	1
74	pays flatrate everymonths for downloads	action	context	user	x						1	1	2
74	doesn't like waiting for download	opinion	product	function				x			1	2	2
74	send information about product to passive buyer	opinion	product	usp				x	x	x	2	2	1
74	service to administrate products appreciated	opinion	product	function				x		x	2	2	1
74	important to invite many creators of DM	opinion	product	usp				x	x	x	2	2	1
74	make communities for both buyers and creators	opinion	product	usp				x	x		2	2	2
74	information can be fed back easily	opinion	product	usp				x	x	x	2	2	1
74	provide information about other products or the background-story of DM	opinion	product	function				x		x	1	1	1
74	private or touching stories can easily arouse public response	opinion	product	usp	x			x		x	2	1	1
74	need to discriminate between good and bad buyers	opinion	product	usp				x	x	x	2	2	1
74	special benefits for good buyers (incentives) appreciated	opinion	product	usp				x			1	1	1
74	sort products in meaningful categories	opinion	product	function				x		x	1	2	1
74	consider needs and trends of the market	opinion	product	usp				x	x	x	2	2	1
74	be carful with usage of colours	opinion	product	design			x				1	1	0
86	using internet real-time broadcasting (streams)	action	context	user				x			1	1	1
86	uses images of intrerest-groups or clubs for own representation	action	context	user	x						1	0	1
86	categorize products and make frames for each category	opinion	product	function			x	x		x	1	2	2
86	display information	opinion	product	function				x			0	1	0
88	uses cyworld for listening to steaming music	action	context	competitor		x					1	1	1
88	possibility to listen what other people purchased already (other people's jukeboxes)	experience	context	competitor		x		x	x		2	2	1
88	easy to share styles/designs with other people	experience	context	competitor		x		x	x		2	2	1
88	warez - upload the list and send CD. Very cheap	experience	context	competitor	x			x			2	1	0

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
88	got punished for using illegal web-folders	experience	context	user	x						2	1	1
88	got punished for using illegal web-folders	experience	context	domain	x						2	0	1
88	illegal systems were removed at the end	experience	context	domain	x						0	0	1
88	needs system to buy only what he wants	opinion	context	user	x						0	0	0
88	points/mileages system (e.g. more points lower price)	opinion	product	usp				x			1	1	2
88	need to discriminate between good and bad buyers	opinion	product	usp				x	x	x	2	2	1
88	community building seems difficult	opinion	product	usp				x	x		2	2	1
88	user comments on products appreciated	opinion	product	function				x	x	x	1	2	1
88	like seller in Auction.com	opinion	product	function		x		x			1	2	2
88	let creatior customize their product representation	opinion	product	function				x			2	2	1
88	administrator to manage and controll online sales necessary	opinion	product	function				x		x	2	2	1
76	first used P2P, but has too many limitations	action	context	domain				x			2	1	1
76	pay some money for downloading movies; better	opinion	context	domain	x			x			1	2	1
76	pay some money for downloading movies; better	opinion	context	domain	x						1	1	2
76	for MP3s still uses P2P	action	context	user	x						1	1	1
76	P2P needs some better "filtering"	opinion	context	domain				x			1	1	1
76	P2P needs some better "filtering"	opinion	context	domain				x		x	1	1	1
76	eBook services in other countries well established and easy to search; but not in Korea	opinion	context	competitor				x	x	x	2	1	1
76	some text-files can be easily found	opinion	context	domain						x	1	0	0
76	amount of serchable files too small for text files	experience	context	domain				x	x	x	2	1	1
76	if search engine matures would be better	opinion	context	domain				x			0	1	0
76	good search engine implemented in melon-player	experience	context	competitor		x		x			2	1	1
76	download network system will be important for service in case may people access the site simultaneously	opinion	product	function				x			0	2	2
76	categorization by content or by price of DM good alternatives	opinion	product	function				x		x	2	2	2
76	community building for lower price of digital content appreciated	opinion	product	usp				x	x		2	2	1
76	website to offer some online storage space (e.g. like "webhard.com") would be appreciated	opinion	product	function				x			2	2	2
76	chatting with (popupar) creators in community-chat appreciated	opinion	product	function				x	x		2	2	1
76	chatting good advertisement for creator and good information-source for buyer	opinion	product	usp				x	x	x	2	1	1
76	no need to video-chat, however	opinion	product	function				x			1	2	2
76	"life search" of searching.entries (e.g. naver.co.kr) appreciated	opinion	product	function				x			1	2	1

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
76	current payment systems for users who buy content many times a day inconvenient	opinion	product	usp				x			2	2	1
76	system to charge some online account (e.g. Monthly abonnement) and then download for free better	opinion	product	usp				x			1	2	1
76	old-generation web-buyers confused to install some active-X controls	opinion	context	user				x			1	1	1
91	uses personal blog (cyworld)	action	context	user	x						1	1	1
91	internet cafe	action	context	domain	x						0	0	1
91	accesses personal blog and listens to music online (streamed)	action	context	competitor	x	x		x			1	1	1
91	rarely downloads music files, rather tries to find them streamed	action	context	user	x			x			2	1	1
93	important to include more and more creators	opinion	product	usp				x	x	x	2	2	1
93	creators need to adverstise their works	opinion	product	function				x			0	1	0
93	well-build service needed	opinion	product	usp			x	x			0	1	0
94	naver offers good resluts for web-searches	opinion	context	domain		x		x			2	1	1
94	now people get to know artists or music from advertisements and then search conten in P2P	opinion	context	domain	x						1	0	1
94	as time goes by current search engines will become less useful	opinion	context	domain				x			0	0	0
94	more will be traded in P2P and people will become less maniac about it	opinion	context	domain	x						1	1	1
94	different levels for creators (authorities to upload music files, creative level) appreciated	opinion	product	usp				x	x	x	2	2	1
94	banner advertisements with nowadays popular content appreciated	opinion	product	function				x			1	1	1
94	does not want active-x conztolls	opinion	context	user							1	1	1
94	also pop-up ads not appreciated	opinion	product	function			x		x		1	2	1
94	too much information on one website is bad	opinion	product	design			x			x	1	2	1
83	doesn't buy CDs	action	context	user	x						1	1	1
83	Nowadays facilitator sites don't guarantee about qualities.	opinion	context	domain				x	x	x	1	2	1
83	So it loses its faithfulness and credibility.	opinion	context	domain	x						1	1	0
83	Regardless of regulations of some sellers, buyers are coming together in good seller. And sellers should be in neutral and fair position in markets.	opinion	context	domain	x						1	1	1
83	Objective criteria's for evaluation products are needed.	opinion	product	function				x			0	1	0
83	Sometimes personal difference and views are intruded in and spoiled evaluation.	experience	context	domain	x				x		1	1	1
83	More than design and aesthetics of site, interface and convenient using methods is important.	opinion	product	usp			x	x		x	1	2	1
83	unshaped content (no structure) seems cheap	opinion	product	design			x			x	2	2	2
82	"illegal share" is the mind-set of digital period.	opinion	context	domain	x						1	1	1

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
82	Thought illegal sharing system should be fixed but people are very accustomed in using this way	opinion	context	user	x						2	1	1
82	To make sure showing quality for buyers, modified evaluation system is strongly needed.	opinion	product	usp				x	x	x	2	2	1
82	Focus group and BBS about product reviewing is all rage in Korea.	opinion	context	domain	x						2	1	1
84	Like to by CD since faithfulness to CD music & quality of music	action	context	user	x						1	1	1
84	"illegal share" cut down quality of culture, because, creators lost motivation and passion to make dm	opinion	context	domain	x						2	2	1
84	"illegal share" cut down quality of culture, because, creators lost motivation and passion to make dm	opinion	context	domain	x						1	0	1
84	Regular rules of rating system should be modified.	opinion	product	function				x			0	1	0
84	It depends on most quantity. Ratio of good transaction is needed.	opinion	product	function				x		x	1	1	1
84	He felt credible when seeing good & high rates of seller.	action	context	user	x						1	1	1
84	But good seller marks stop new seller, developing and selling more.	opinion	context	domain	x						2	0	1
84	information share among sellers is needed for buyers.	opinion	product	function				x		x	1	1	0
84	Music and movie portal on internet is very beneficial for normal users in aspect of variety and classification.	opinion	context	domain	x					x	1	1	0
84	User prior services is sometimes easy and select new contents.	opinion	context	user	x		x				1	1	0
84	For cultural content ratings are inconvenient and too much.	opinion	product	usp	x			x	x	x	1	1	1
84	Cultural contents service methods are very aligned with peoples preferences (very specific contents).	opinion	context	domain	x						1	0	0
84	By that reason since the strict music arrangement system, iPod and iTunes s/w is inconvenient for many people.	opinion	context	competitor		x				x	1	1	0
84	I like collecting second-hand bookstore	action	context	user	x						1	1	1
84	Comprehensive service that cover all over internet is needed.	opinion	context	domain				x	x	x	1	1	0
95	used 'illegal" P2P site with little payment.	action	context	user	x						1	1	1
95	The fecilliation site like e-bay seems like cheap and not-sophiscated.	opinion	product	design		x	x				1	2	1
95	Cuz the bad and poor site design. A stable design would be helpful to widen the purchasing market.	opinion	product	usp			x				1	1	0
95	In online-market, it needs entirely-free market.	opinion	context	domain	x						1	1	1
95	Seller evaluation depending quantity is only beneficial for strong sellers.	opinion	product	function				x			1	1	1
95	In conclusion, evaluation depending quality is needed.	opinion	product	function				x		x	1	2	1

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
95	In case of releasing movie, which needs devices and theaters essentially, preserving good items and cultures should be guarenteed	opinion	context	domain				x	x	x	1	2	1
95	On culture contents, since these are not expensive stuff. Reviews is not entirely needed.	opinion	context	domain	x			x			1	1	1
95	MP3 files that have CD-jacket images or booklet images give presence of good quality.	opinion	context	domain				x		x	2	1	1
95	For internet Book (e-book) new technology like real-touching is needed.	opinion	context	domain				x			1	0	1
48	I usually downloaded movies.	action	context	user	x						1	1	1
48	I use computer 3~4 hours per day.	action	context	user	x						0	0	2
48	I access to "auction" to buy stuffs.	action	context	user	x	x					1	1	1
48	I think reviews of digital contents is important, because that can impact on other buyers to buy movies or mp3.	opinion	context	domain				x		x	1	1	1
48	functions like "other movies related to this movie" => it makes me to spend more time.	opinion	product	function		x		x		x	2	2	2
90	I rarely go to theater, so I watch movies that is on TV, or that is free on internet.	action	context	user	x						1	1	1
90	I like comic books.	action	context	user	x						1	1	1
90	I don't think that copyright is needed.	opinion	context	user	x						1	1	1
90	Digital Content Creation is not relevant to copyright.	opinion	context	user	x						1	1	1
90	If the creator emphasize on the meaning of making works, or sharing with others the copyright will not be important.	opinion	context	domain	x						2	2	1
90	2~3 hours per day I use computer.	action	context	user	x						0	0	2
90	I regret buying from internet, because the quality of things is not good, or size doesn't fit me	experience	context	domain	x						1	1	1
90	I don't trust reviews of the product, because somebody can write reviews who try to advertise their stuff.	opinion	context	domain	x						1	1	1
90	I think that advertisement is really important. Although the quality of contents is very good, those can not be sold without ads. As long buyers don't know about them	opinion	product	function				x		x	0	1	1
90	I don't feel inconvenient about current payment methods.	opinion	context	user				x			1	1	1
90	If I don't like the product, or wrong product is delivered to me, the system that ,I call for returning the product is needed, and if that is more convenient, that will be really good.	opinion	product	usp				x	x	x	2	2	1
62	I also buy CDs for collecting and get mp3 files from my siblings.	action	context	user	x						1	1	1
62	I go to theater after I see the other peoples judge on the internet	action	context	user	x						1	1	1
62	I borrow books from campus library.	action	context	user	x						1	1	1
62	I had to pay penalty for illegal file download, I think I made wrong.	experience	context	domain	x						2	0	1

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
62	I access to "Gmarket" to buy cloths. I like to buy stuffs on the internet.	action	context	user	x	x					1	1	1
62	I think "preview function" is good to buy digital contents.	opinion	product	function				x			1	2	1
62	I think it will be good to give chances of ads to all the creators equally, then buyers can have more variety of chances to access other types of contents.	opinion	product	function				x		x	1	1	1
62	If I don't want the product that I bought from internet, I I write on BBS	action	product	usp				x	x	x	2	2	1
62	I don't like the pictures which is different from real product. Sometimes it lies.	opinion	context	domain	x						1	1	1
62	The system that is responsible for wrong product is needed such as "penalty fee".	opinion	context	domain	x			x	x	x	2	2	1
62	If point system(milage) is well built-up I would like to buy stuffs from that site.	opinion	product	usp				x			1	1	1
62	I think communication with other users, or creators is important.	opinion	product	function				x	x		2	2	1
63	I get mp3 from Internet cafe, I buy CD for collecting. (usually I don't listen).	action	context	user	x						1	1	1
63	First I scan the movie that I downloaded, if I like that, I go to theater/sometimes use DVD.	action	context	user	x						2	1	1
63	I had many CDs of artists that I really like.	action	context	user	x						0	1	1
63	I think that it takes much money to go and watch movies at theater. But if we think creators point of view, they need money that is used to make movies.	opinion	context	user	x						0	0	1
63	I think that about is reasonable price to buy movies on the internet.	opinion	context	domain	x						1	1	1
63	I enjoy shopping on the internet, it is cheaper than off. line market	action	context	user	x						1	1	1
63	Usually uses shopping websites of department-stores	action	context	user	x						1	1	1
63	The quality is good and convenient to buy this rather than go outside.	action	context	user	x						1	1	1
63	For digital media (contents) it is useless to see reviews of other buyers.	opinion	context	domain	x					x	2	1	1
63	It just need to show exact information	opinion	context	domain				x		x	2	2	1
63	no need to interact with creators.	opinion	product	function					x		2	2	1
63	In terms of "Independent movie" or "art movie", they really need to advertise. We don't know about that because they are no ads.	opinion	context	domain						x	1	0	1
63	I like the website convenient to see rather than pretty, or beautiful graphics.	opinion	product	usp			x	x		x	2	2	1
63	I usually look at hot products first.	action	context	user				x		x	2	2	2
63	The way to access shopping site, go into next depth throw categories. (e.g. textures, genders, brands, sorts, etc.)	opinion	context	user				x		x	1	2	1
63	I'm VIP customer of G-market, I obtain many discount coupons, or free - delivery services, so I go to that site more.	action	context	user	x			x			1	1	1

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
63	It would be good to give points if buyer upload picture of the products, or reviews.	opinion	product	usp				x	x		2	1	1
98	get mp3 from "Melon" movie at theater, I buy CD that I really like, but usually, I don't.	action	context	user	x						1	1	1
98	It will be good if there exists "communications tools" to interact with creators.	opinion	product	function				x	x		2	2	1
98	I think that it is important to show credit level to buyers.	opinion	product	function				x			2	2	1

Table 11.60: Anecdote Circles - Korea

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
80	share files with messenger	action	context	user	x			x	x		1	1	1
80	share Id for streaming sites	action	context	user	x						2	1	1
80	because people watch movie on PC monitor, movie quality is not important	opinion	context	domain	x			x			1	1	1
80	buy clothes online	experience	context	domain	x						1	0	1
80	can't trust price at online shopping mall	opinion	context	domain	x						1	0	1
73	bought a game CD	experience	context	domain	x						1	0	1
73	use mp3 player on long trip	action	context	user	x						1	0	1
73	give a lot of files to friends	action	context	user	x			x			1	1	1
73	there are many substitutes for PC	opinion	context	domain	x			x	x		1	1	0
73	cell phone : durable and cheap one is good	opinion	context	user	x						1	0	1
73	size is important for clothes, but internet is weak to compare size	experience	context	domain	x						0	0	1
73	clothes and shoes should be comfortable	opinion	context	user	x						0	0	1
73	electronic product should be simple	opinion	context	domain	x						0	0	1
77	don't buy a CD any more	action	context	user	x						1	1	1
77	downloading is more comfortable than buying CD	opinion	context	domain	x						1	1	1
77	reading a cartoon on PC is uncomfortable	experience	context	domain	x						1	0	1
79	copyright really matters	opinion	context	domain	x						1	0	1
79	have sold music CD with mp3 files	experience	context	domain	x						1	0	1
79	buy a CD to show off	action	context	user	x						1	1	1
79	many things are needed to see DVD	opinion	context	domain	x						1	0	1
79	want to buy luxury goods to show off	action	context	user	x						1	1	1
79	search price in portal site first, then buy	action	context	user						x	1	2	1

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
79	change a cell phone each year	action	context	user	x						0	0	1
79	buy cheap clothe at online shopping mall	experience	context	domain	x						1	0	1
79	consider past experience	experience	context	domain	x						0	0	0
35	buys CDs.	action	context	user	x						0	0	0
35	meaningful for possesion	opinion	context	user	x						1	1	1
35	Sound quality is important to him	opinion	context	domain				x			1	1	1
35	can record the MP3 illegally	experience	context	domain	x						0	0	1
35	not easy to go to the movies alone	opinion	context	user	x						1	0	0
35	for men, it is not easy to the movies without a woman	opinion	context	user	x						1	0	1
35	he needs "Gentlemens Only" in theaters :)	opinion	context	user	x						0	0	0
35	he buys comic books and shares them with friends	action	context	user	x			x	x		1	1	1
35	Individuality - he prefers unique items	opinion	context	user	x						1	1	1
35	after people post on their website, their fans send some pcitures or photos	experience	context	domain					x	x	1	1	0
35	some posts are published now	experience	context	domain						x	0	0	0
35	prefers unique items - but hard to find interesting groups	action	context	user	x						1	1	1
39	doesn't download MP3s	action	context	user	x						1	1	1
39	uses blogs that streams music	action	context	user	x			x			1	1	1
39	feels no difference between CD and MP3	opinion	context	domain	x						1	1	1
39	downloads movies frequently	action	context	user	x						1	1	1
39	does not lend videos anymore	action	context	user	x						1	1	1
39	no bad conscience for filesharing because of P2P systems	opinion	context	user	x						2	2	1
39	listening to music when sleeping or driving	action	context	user	x						0	0	1
39	downloads scanned comic books	action	context	user	x						1	1	1
39	sharing/lending comics too annoying	opinion	context	user	x						1	1	1
39	most mobiles have similar functions so the design of the mobile is important to him	opinion	product	usp	x		x				1	1	1
39	for laptops functions and specificatins are more important than design	opinion	product	usp	x						1	0	1
39	laptop to be light and fast	opinion	product	usp	x						0	0	1
44	DVDs are very cheap in South-East Asia, but illegal	experience	context	domain	x						0	0	1
44	laptop to be light and fast	opinion	product	usp	x						0	0	1
44	prefers offline book stores over online-shops	opinion	context	domain	x				x	x	1	1	1

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
44	sometimes buys books because of their cover; these days covers are very nice	action	product	design	x						1	0	1
44	prefers vivid colours	opinion	product	design			x				1	1	1
75	sometimes goes to DVD-theater (DVD-bang)	action	context	user	x						1	0	1
75	more importnat to go out than to watch	opinion	context	user	x						1	0	1
75	never bought a CD since he has a computer	action	context	user	x						1	1	1
75	no need to record; can easily find files online	experience	context	domain	x						1	0	1
75	but download too slow	experience	context	infrastructure				x			1	1	1
75	agrees with 35: for men it is not easy to go to the movies without a woman	opinion	context	user	x						1	0	1
75	does not think sharing/ledning files is annoying	opinion	context	user	x						1	1	1
75	downloads only fantasy-books	action	context	user	x						1	0	1
75	familiy-members have the same mobile phone because it is cheap	action	context	user	x						1	0	1
75	likes simple colours	opinion	product	design			x				1	1	1
78	assumes that media-shops won't be needed in future anymore; people do already use illegal systems	opinion	context	domain	x						2	2	1
78	doesn't buy digital media at all	action	context	user	x						1	1	1
78	no bad conscience for filesharing because of P2P systems	opinion	context	user	x						2	2	1
78	sometimes goes to DVD-theater (DVD-bang)	action	context	user	x						1	0	1
78	since the P2P system he used to download from started to charge for downloads he didn't use MP3 downloads	action	context	user	x						2	2	1
78	buying a DVD is meaningful for possession	action	context	user	x						1	1	1
78	agrees with 35: for men it is not easy to go to the movies without a woman	opinion	context	user	x						1	0	1
78	does not think sharing/ledning files is annoying	opinion	context	user	x						1	1	1
78	wants to buy a Macbook because it is good for CAD modelling and design works	action	context	user	x						0	0	1
78	difficult to read from the screen; plus it's bad for the eyes	opinion	context	domain				x			0	0	1
78	likes green and simple colours	opinion	product	design			x				1	1	1
14	more uploading, more points to use	opinion	product	usp				x		x	1	2	1
14	After buying cyber money, buy contents	opinion	product	function				x			1	2	1
14	exchange music in community	experience	context	domain				x	x		2	2	1
14	can't trust contents of files, no after note	opinion	context	domain	x						1	1	0
14	when buy paper, he want to chat with an author	action	context	domain					x		2	2	2
14	converting file is uncomfortable	experience	product	usp				x			1	1	0
14	have bought ppt format	experience	context	domain	x						0	0	0

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
31	Sharing program is comfortable and easy to use	experience	context	domain				x	x	x	1	1	1
31	easy to classify	opinion	product	usp				x			1	2	0
31	contents what he wanted were erased by copyright	experience	context	domain	x						2	2	0
31	With DMB, see live TV show	action	context	user	x						1	0	1
31	PMP is too small to see and converting file is bad	opinion	context	domain	x						1	0	1
31	bought special contents difficult to find	experience	context	domain				x		x	1	1	1
31	impulse buying is easy online	opinion	context	domain	x						1	1	1
31	downloaded file contains virus	experience	context	domain	x						1	1	1
33	"Webhard" service is good	experience	context	competitor		x					1	1	1
33	don't buy movie, but buy special content like music score	action	context	user	x						1	0	0
33	use charge music site with friends by sharing ID	experience	context	domain	x						2	1	1
33	cartoon is not suitable to web	opinion	context	domain	x						1	0	0
33	doesn't want to give file bought to friends	action	context	domain	x						1	1	1
33	cyworld : buy music and give it to friend	experience	context	competitor		x		x	x	x	1	2	1
33	downloaded files are defective	experience	context	domain	x						1	1	1
33	downloading after paying money, then quality is believable	experience	context	domain	x						1	2	1
33	Indi-game seller : sell what seller made online	experience	context	domain	x						1	1	1
33	When paymnet is uncomfortable, give up buying	experience	context	domain				x			1	1	2
33	reduced sharing files after regulation becomes hard	action	context	domain	x						1	1	1
70	Movie downloaded in PC is low quality	opinion	context	domain				x		x	1	1	1
70	download programs and lectures	action	context	user	x						1	1	1
70	charge service (not free service) is more good. Can see movie during downloading	experience	context	domain				x		x	1	2	1
70	Preview is important when buying paper	opinion	product	usp				x		x	1	1	1
70	downloaded font, but couldn't use it freely	experience	context	domain	x						1	1	0
70	want trustful content in good website after legal payment	opinion	context	user	x						1	1	1
37	movie or classic music are worth paying legally	opinion	context	user	x						1	1	1
37	often buy and sell paper	experience	context	domain	x						1	1	1
8	download mp3 file at blog	experience	context	domain	x						1	1	1
8	pay movie	action	context	user	x						1	1	0
8	hard to buy cyber-money from real money	experience	product	function				x		x	2	2	0
8	but easy to buy product with cyber-money	experience	product	function				x		x	2	2	0
5	because they can get what they want at free, don't want p2p business	opinion	context	domain	x						1	1	0
5	legal users of p2p service are lazy	opinion	context	competitor	x						1	1	0

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
5	patent belongs to maker, but service company earns money	opinion	context	domain	x						1	1	0
5	someone use other person's id number to enroll p2p service	experience	context	domain	x						2	1	1
5	there is buyer-seller connecting service	experience	context	competitor		x					1	1	1
5	Item trade in online game is often	experience	context	domain	x			x			1	1	0
5	he uploaded music file and listening test file. Then some institue made them as cd and sell those.	experience	context	domain	x						2	1	0
5	digital content feels not expensie, so sharing also seems legal	opinion	context	domain	x						2	1	1
5	digital present feels wasteful	opinion	context	user	x						2	1	1
69	sharing with friends is illegal? I can't understand	opinion	context	domain	x						0	0	0
10	p2p feels like free service	opinion	context	domain	x						1	0	1
10	Resident Evil : already released online illegally before theater	experience	context	domain	x						1	1	1
10	PMP is not good for movie. Small	opinion	context	domain	x						1	0	1
10	game item is so expensive	opinion	context	domain	x						1	1	1
10	scarce file is popular(old music, movie, sport game)	experience	context	domain	x					x	1	1	1
10	first movie capture, then advertise it. Buyers will come	opinion	product	usp	x						1	1	0
10	buy point with money, then use points to buy products	opinion	product	function				x		x	1	2	1
10	price is so low, so cheap products also feel expensive	opinion	context	domain	x						1	1	1

Table 11.61: Inspiration Card Workshop - Korea

User	domain	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
30	Bar	goes to bar to listen to some music	action	context	user	x						0	0	1
34	Home	invite friends and have fun	action	context	user	x						0	0	1
52	Library	share information	action	context	user	x						0	1	0
52	Library	study in the library with friends	action	context	user	x						0	0	1
60	Library	see documentary film	action	context	user	x						0	1	1
60	Library	Group Study : share info.	action	context	user	x						0	1	0
71														
27	Bar	go to see sports game with friends	action	context	user	x						0	0	1
27	Bar	recharge cellphone and enjoy sports game	action	context	user	x						0	0	1
46	Bar	request music and listen	action	context	user	x						0	0	1
46	Dormitory	Printing document	action	context	user	x						0	0	1

User	domain	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
46	Home	online shopping	action	context	domain	x						0	1	0
46	Home	mp3 player	action	context	domain	x						0	0	1
46	Road	Portable Media Player (PMP) : movie, lecture	action	context	user	x						0	1	1
45	Hotel	video conference	opinion	context	user	x						0	0	1
45	Hotel	wireless network	opinion	context	infrastructure	x						0	0	1
64	Hotel	watch foreign TV channel	action	context	user	x						0	0	1
64	Hotel	use internet	action	context	user	x						0	0	1
64	Hotel	use a map	action	context	user	x						0	0	1
64	Dormitory	portable games	action	context	user	x						0	0	0
64	Library	listen to audio book	action	context	user	x						0	1	1
64	Home	cable channel	opinion	context	infrastructure	x						0	0	1
50	Dormitory	download soap drama	action	context	user	x						0	0	1
50	Dormitory	sharing files	action	context	domain	x						0	0	1
50	Library	foreign magazine, journal	action	context	user	x						0	0	1
50	Home	watch Tv	opinion	context	user	x						0	0	1
50	Road	PDA : scheduling	opinion	context	user	x						0	0	1
67	Dormitory	file downloading, sms	action	context	domain	x						0	0	1
67	Dormitory	free chat service sometimes need watching advertisement	opinion	context	domain	x						0	0	1
67	Blogg	Its like fashion	opinion	context	user	x						1	1	0
67	Blogg	off-line communities still use café service on-line	opinion	context	domain	x						1	0	0
29	Dormitory	Internet phone: text chat + voice phone (Skype phone service)	action	context	user					x		1	0	1
29	Dormitory	chat + call with friends in distance	action	context	user					x		1	0	1
29	Dormitory	small talk in class time -video chat	action	context	user	x						0	0	0
29	Dormitory	internet chat cut down severely the phone price	opinion	context	domain	x						0	0	1
29	Dormitory	we can find where friends are now	experience	context	domain				x		x	1	2	1
29	Dormitory	some service supply import order on chatting and clarifying order and delivery on chat	opinion	context	domain				x	x		1	2	0
29	Blogg	blog is good for expressing private life & thinking	opinion	context	domain					x	x	1	1	1
28	Dormitory	use chatting in MSN,NATE on for regular talk. Conversation	action	context	user					x		1	1	1
28	Dormitory	We can use messenger games	action	context	domain	x						0	0	1
28	Blogg	sellers make cancel way of their service complicated an confused for buyers	opinion	context	domain	x						1	0	0
28	Blogg	people recently like blog more than cafe or focus group community that need many people	opinion	context	domain	x				x		1	1	1

User	domain	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
28	Blogg	Some cell phone service companies supply messenger service like Skype	opinion	context	domain	x						1	0	1
28	Blogg	And there are some services to translate words & chat among the worlds. (translation service on messenger)	opinion	context	domain				x		x	1	2	1
66	Dormitory	file-sharing needs	action	context	domain	x						0	0	0
66	Dormitory	chat is narrowing distance between people	opinion	context	domain	x						1	1	1
66	Dormitory	Sometimes, using mandatory messenger for communication is burden for us	opinion	context	user	x						1	0	1
66	Blogg	on blog, language problem appears often when watching foreign friend's blogs	experience	context	domain					x		1	0	1
65	Dormitory	unification of messenger is wanted	opinion	context	domain					x		1	0	1
87	Movie	To enjoy movie seriously, enjoy it alone	opinion	context	user	x						0	0	1
87	Movie	By illegal download, someone had to pay penalty	experience	context	domain	x						1	1	1
87	Movie	After seeing movies, erase them from PC	action	context	user	x						0	0	1
87	Movie	File contents and names are different sometimes	experience	context	domain						x	1	1	1
87	Intranet	Idol star : become aware them through internet	opinion	context	domain	x						0	1	0
87	Intranet	Search jobs through internet	action	context	user	x						0	1	1
92	Movie	gather points at P2P site(Club box, Pruna) to use it well	opinion	context	domain	x						1	0	1
92	Movie	Intercepting copyright is more severe than before	opinion	context	domain	x						0	0	1
92	Movie	mp3 files and TXT files are not available illegally	opinion	context	domain	x						0	0	0
89	Movie	Sharing movie inside lab	action	context	domain	x						1	1	1
89	Intranet	Mobile access : when reply is written, send message	opinion	context	domain				x		x	1	2	1
96	Intranet	Killing time in Ara (ara is telnet used in KAIST)	action	context	user	x						0	1	1
97	Movie	Interception IP address due to illegal download	action	context	domain	x						1	0	1
97	Movie	Use free movie serviced by some sites	action	context	domain	x						1	1	0
81	Movie	Enjoy movie during whole day after downloading it	action	context	user	x						0	0	1
81	Movie	He knows situation of sellers, but he used illegally	action	context	domain	x						0	1	1
30	Bar	goes to bar to listen to some music	action	context	user	x						0	0	1
34	Home	invite friends and have fun	action	context	user	x						0	0	1
52	Library	share information	action	context	user	x						0	1	0
52	Library	study in the library with friends	action	context	user	x						0	0	1
60	Library	see documentary film	action	context	user	x						0	1	1
60	Library	Group Study : share info.	action	context	user	x						0	1	0
71														

User	domain	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
27	Bar	go to see sports game with friends	action	context	user	x						0	0	1
27	Bar	recharge cellphone and enjoy sports game	action	context	user	x						0	0	1
46	Bar	request music and listen	action	context	user	x						0	0	1
46	Dormitory	Printing document	action	context	user	x						0	0	1
46	Home	online shopping	action	context	domain	x						0	1	0
46	Home	mp3 player	action	context	domain	x						0	0	1
46	Road	Portable Media Player (PMP) : movie, lecture	action	context	user	x						0	1	1
45	Hotel	video conference	opinion	context	user	x						0	0	1
45	Hotel	wireless network	opinion	context	infrastructure	x						0	0	1
64	Hotel	watch foreign TV channel	action	context	user	x						0	0	1
64	Hotel	use internet	action	context	user	x						0	0	1
64	Hotel	use a map	action	context	user	x						0	0	1
64	Dormitory	portable games	action	context	user	x						0	0	0
64	Library	listen to audio book	action	context	user	x						0	1	1
64	Home	cable channel	opinion	context	infrastructure	x						0	0	1
50	Dormitory	download soap drama	action	context	user	x						0	0	1
50	Dormitory	sharing files	action	context	domain	x						0	0	1
50	Library	foreign magazine, journal	action	context	user	x						0	0	1
50	Home	watch Tv	opinion	context	user	x						0	0	1
50	Road	PDA : scheduling	opinion	context	user	x						0	0	1
67	Dormitory	file downloading, sms	action	context	domain	x						0	0	1
67	Dormitory	free chat service sometimes need watching advertisement	opinion	context	domain	x						0	0	1
67	Blogg	Its like fashion	opinion	context	user	x						1	1	0
67	Blogg	off-line communities still use café service on-line	opinion	context	domain	x						1	0	0
29	Dormitory	Internet phone: text chat + voice phone (Skype phone service)	action	context	user					x		1	0	1
29	Dormitory	chat + call with friends in distance	action	context	user					x		1	0	1
29	Dormitory	small talk in class time -video chat	action	context	user	x						0	0	0
29	Dormitory	internet chat cut down severely the phone price	opinion	context	domain	x						0	0	1
29	Dormitory	we can find where friends are now	experience	context	domain				x		x	1	2	1
29	Dormitory	some service supply import order on chatting and clarifying order and delivery on chat	opinion	context	domain				x	x		1	2	0
29	Blogg	blog is good for expressing private life & thinking	opinion	context	domain					x	x	1	1	1
28	Dormitory	use chatting in MSN,NATE on for regular talk. Conversation	action	context	user					x		1	1	1
28	Dormitory	We can use messenger games	action	context	domain	x						0	0	1

User	domain	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
28	Blogg	sellers make cancel way of their service complicated an confused for buyers	opinion	context	domain	x						1	0	0
28	Blogg	people recently like blog more than cafe or focus group community that need many people	opinion	context	domain	x				x		1	1	1
28	Blogg	Some cell phone service companies supply messenger service like Skype	opinion	context	domain	x						1	0	1
28	Blogg	And there are some services to translate words & chat among the worlds. (translation service on messenger)	opinion	context	domain				x		x	1	2	1
66	Dormitory	file-sharing needs	action	context	domain	x						0	0	0
66	Dormitory	chat is narrowing distance between people	opinion	context	domain	x						1	1	1
66	Dormitory	Sometimes, using mandatory messenger for communication is burden for us	opinion	context	user	x						1	0	1
66	Blogg	on blog, language problem appears often when watching foreign friend's blogs	experience	context	domain					x		1	0	1
65	Dormitory	unification of messenger is wanted	opinion	context	domain					x		1	0	1
87	Movie	To enjoy movie seriously, enjoy it alone	opinion	context	user	x						0	0	1
87	Movie	By illegal download, someone had to pay penalty	experience	context	domain	x						1	1	1
87	Movie	After seeing movies, erase them from PC	action	context	user	x						0	0	1
87	Movie	File contents and names are different sometimes	experience	context	domain						x	1	1	1
87	Intranet	Idol star : become aware them through internet	opinion	context	domain	x						0	1	0
87	Intranet	Search jobs through internet	action	context	user	x						0	1	1
92	Movie	gather points at P2P site(Club box, Pruna) to use it well	opinion	context	domain	x						1	0	1
92	Movie	Intercepting copyright is more severe than before	opinion	context	domain	x						0	0	1
92	Movie	mp3 files and TXT files are not available illegally	opinion	context	domain	x						0	0	0
89	Movie	Sharing movie inside lab	action	context	domain	x						1	1	1
89	Intranet	Mobile access : when reply is written, send message	opinion	context	domain				x		x	1	2	1
96	Intranet	Killing time in Ara (ara is telnet used in KAIST)	action	context	user	x						0	1	1
97	Movie	Interception IP address due to illegal download	action	context	domain	x						1	0	1
97	Movie	Use free movie serviced by some sites	action	context	domain	x						1	1	0
81	Movie	Enjoy movie during whole day after downloading it	action	context	user	x						0	0	1
81	Movie	He knows situation of sellers, but he used illegally	action	context	domain	x						0	1	1

Table 11.62: Interviews - Germany

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
21	schlechte Bewertungen führen zum Nichtkauf	opinion	context	domain						x	1	1	1
21	Bewertungen von Fremden ausschlaggebend	opinion	context	domain						x	1	1	1
21	Gruppenkäufe: Wenn, dann online	opinion	context	user	1						1	1	1
21	support wichtig vom Provider	opinion	product	function				x		x	1	2	1
21	würde Bezahlung mit Handy gerne probieren (mp3 Kauf über Handyrechnung)	opinion	product	function				x			1	2	1
21	Statistiken sind eher unnötig und bedenklich (Datenschutz)	opinion	context	domain						x	2	2	2
21	Verkäufer: Kontaktdaten; Artist: mehr Informationen	opinion	product	usp						x	1	2	1
21	möchte samples und eine Durchschnittsnote zur Bewertung von Software	opinion	product	function				x		x	1	2	1
34	Nutzt PC für Inos, Produkte, Surfen, Runterladen	action	context	user	1						1	1	2
34	Einam täglich eine Stunde das Internet, variert	action	context	user	1						1	1	2
34	Zum Shoppen: eBay, Amazon, iTunes	opinion	context	competitor		x					1	1	1
34	kauft Kleidung, Bücher, Mp3s, CDs, Mp3s	action	context	domain	1						1	1	1
34	durchweg positive Kauferfahrungen	experience	context	user	1						2	0	1
34	Filesharing wenn in guter qualität, sonst Kaufen	opinion	context	user	1						1	1	1
34	Lieblingssites: beginnerag, youtube	opinion	context	domain		x					1	1	1
34	Keine Neonfarben, gedeckte Farben, nicht zu grell	opinion	product	design			x				1	1	1
34	Trennung von Musik, Filmen und Software	opinion	product	design			x	x			1	2	1
34	Top10/100 der top Downloads	opinion	product	function				x		x	2	2	2
34	Kundenfängerfuinktionen (Andere Leute haben sich auch das gekauft)	opinion	product	function				x		x	1	2	1
34	Samples/Trailer	opinion	product	function				x		x	1	2	1
34	Nutzungsbedingungen klar ersichtlich	opinion	context	domain						x	1	1	1
34	einfache Bedienung	opinion	product	function			x	x			0	2	0
34	iTunes ist sehr gut aufgebaut	opinion	context	competitor		x	x	x			1	2	1
34	Überweisung und Nachnahme, auch Kreditkarte als Zahlungsmittel	opinion	product	function				x			1	2	1
34	Keine persöhnlichen Daten, aber solche Sachen wie StudiVZ sind ganz witzig, es sollte bloß nicht öffentlich online stehen	opinion	context	domain	1					x	1	1	1
34	Käuferkontaktswichtigkeit, email, tel, chat, video	opinion	product	function						x	1	2	1
34	Ratings sind sehr wichtig	opinion	context	domain				x		x	1	2	1
34	Gruppenformung nur mit Freunden	opinion	context	user	1						1	1	1
34	Kommunikation mit Pinboard, Chat, email	opinion	product	function				x	x		1	2	1
34	Keine Serviceproviderkommunikation und bei Problemen mit Telefon und email	opinion	product	function				x		x	1	2	1
34	Es ist nicht meine Aufgabe das System zu verbessern	opinion	context	user	1						2	0	1
34	Wunsch nach einer HitList	opinion	product	function				x		x	2	2	1
34	Tourdaten, Infos, Alben,Hörtests...	opinion	product	function				x		x	1	1	1

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
34	Empfehlung von Freunden sind wichtig, Ideen, trotzdem Hörprobe	opinion	context	domain	1					x	1	2	1
34	Von Büchern erwarte ich mir eine Zusammenfassung, Bewertung etc	opinion	product	usp						x	1	2	1
34	Software -> Demo	opinion	product	usp				x		x	1	2	1
34	Keine privaten Interessen, nur Produktspeziefisches, Karrierelevantes	opinion	context	user						x	1	1	1
43	Nutzt Rechner nur fuer Büroanwendungen	action	context	domain	1						1	1	1
43	Einam taeglich eine Stunde dasd Internet	action	context	user	1						1	1	2
43	Infos, Bürosachen, Wiokipedia	action	context	user	1						1	1	2
43	Kauft selten online ein, dann nur bei ebay oder amazon	experience	context	user	1	x					1	1	1
43	ist bereit eine Woche auf den Erhalt der Waren zu warten	opinion	context	user	1						2	1	1
43	Sie weiß nich was filesharing ist	experience	context	user	1						1	1	2
43	hat schon sachen bei ebay verkauft, dvds, digitaler krams	experience	context	user		x					1	1	1
43	hat keine schlechten erfahrungen beim verkauf gemacht	experience	context	domain	1						1	1	1
43	urlaubsvideos erstellt	experience	context	domain	1						1	1	1
43	faves: wikipedia, studivz	opinion	context	domain		x					1	1	1
43	rot/orange als lieblingsfarben	opinion	product	design			x				1	1	1
43	übersichtlich und dezente Farben mit ein bisschen rot wären erwünscht	opinion	product	design			x				1	1	1
43	Inhaltsverzeichnis und Taxonomische Struktur	opinion	product	usp			x			x	2	2	1
43	Werbung, welche direkt mit dem Produkt verknüpft ist	opinion	context	domain					x	x	2	2	1
43	Vielseitige Funktionalitäten der Website	opinion	product	function				x			1	1	0
43	Online Funktionalitäten: Suche, Klappentext, Autoreninfos, Cover, Kontaktsdressen	opinion	product	function				x		x	2	2	2
43	Will vertrauliche Profile und Anonymität.	opinion	context	domain	1					x	1	1	1
43	Der Shop darf Bewegungen nachvollziehen	opinion	context	domain				x		x	2	2	1
43	keine Kraditkarte, kein PayPal, kein Bankeinzug	opinion	product	function				x			1	2	1
43	Will nur das nötigste (transaktionsrelevent) in ihr Profil schreiben	opinion	context	user	1					x	2	2	1
43	Kontakt zum Verkäufer über email und Telefphone	opinion	context	domain					x		1	2	1
43	Sie kauft bis 80% positivez Bewertung	action	context	user	1						2	1	1
43	Würde einen Gruppenkauf nur mit Freunden machen	opinion	context	user	1						1	1	1
43	Kommunikation über Pinboard und Telephone	opinion	product	function					x		1	2	2
43	Statistiken über Produkte wären interesant wenn sie über Produkte gehen, sonst nicht	opinion	product	usp						x	2	2	1
82	Intenet: sinnlose Dinge	opinion	context	user	1						1	1	1
82	Nutzung: stündlich	action	context	user	1						1	1	1
82	kauft bei ebay, Elektrofachhändlern	action	context	domain		x					1	1	1
82	Wartebereitschaft: einen Tag	opinion	context	user	1						2	1	1
82	mag snapfish für Fotos	opinion	context	domain		x					1	1	1
82	shared nur legale Files	action	context	user	1						1	1	2

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
82	bekommt DM durch file sharing	opinion	context	domain	1						1	1	1
82	verkauft Sachen seiner Mutter online	action	context	user	1						1	1	2
82	Verkaufen ist zu anstrengend (Zeitaufwand)	opinion	context	user	1			x			1	1	1
82	Lieblingswegseite:Google Kalender	opinion	context	domain		x					1	1	1
82	Bevorzugt grün, hellgrün als Farben	opinion	product	design			x				1	1	1
82	ausschließlich Funktionalität ausschlaggebend	opinion	context	domain			x	x			1	1	1
82	online Store wie normales Geschäft aufbauen; Suchfunktion, Sortiert, Covers sichtbar	opinion	product	usp			x	x		x	1	1	1
82	künstlerische Produktrepräsentation erwünscht	opinion	product	usp			x	x		x	1	1	0
82	Produkt sollte sich hochwertig anfühlen	opinion	context	domain			x	x			1	2	0
82	Deko uninteressant	opinion	context	user	1		x				1	1	1
82	Kategoriensuche mit der Möglichkeit Ergebnisse zu verfeinern	opinion	product	function				x			1	2	1
82	DM: Anzahl der Verkäufe wichtig	opinion	product	function				x		x	1	2	1
82	kein eigenes Profil anlegen	opinion	context	user				x		x	1	2	1
82	Kontakt nur wichtig wenn man nicht genau weiß, was man kaufen mag	opinion	context	domain					x		2	1	1
82	nur Videokonferenz wäre interessant	opinion	product	function				x			1	1	1
82	höchste Wichtigkeitsstufe: Verkäuferbewertung	opinion	product	function				x		x	1	1	1
82	Verkäfuer gerne in Kategorien bewerten (Kontaktschnelligkeit, Versand und Produktqualität)	opinion	product	function				x		x	2	2	1
82	Sicherheit durch pos. Bewertungen	opinion	context	domain				x		x	1	1	1
82	Gruppenkäufe: Nur mit offline Bekannten	opinion	context	domain	1						2	1	1
82	Gruppe sollte mit einem Mausklick anlegbar sein	opinion	product	usp			x	x			1	1	1
82	möchte nicht in eine Community eintreten	opinion	context	user	1						2	0	1
82	Gruppenkommunikation: email	opinion	product	function					x		1	1	1
82	helpdesk oder suggestion box wären ok	opinion	product	function				x	x		1	2	1
82	Statistiken: lustig, aber nicht selber drin stehen wollen	opinion	context	user	1					x	2	1	1
82	Alter und Foto des Künstlers wünschenswert	opinion	product	usp						x	1	2	1
82	alle persönlichen Daten preisgeben wenn er selbst etwas als Künstler verkauft.	opinion	context	domain						x	2	2	1
82	Wie alt sind die Käufer? Durschnittsalter.	opinion	context	domain						x	1	1	1
83	Nutzung des Internet für Programmentwicklung	action	context	user	1						1	1	1
83	Nutzung des Internets für Grafikdesign	action	context	user	1						1	1	1
83	Nutzung des Internets für Officeanwendungen	action	context	user	1						1	1	1
83	Kauf von Büchern, Netzwerkgeräten, DVDs, etc (Amazon)	action	context	domain		x					1	1	1
83	Wartebereitschaft: Produktabhängig	opinion	context	user	1						2	1	1
83	File sharing: ausschließlich eigene Daten	action	context	user	1						1	1	2
83	Verkauf von Büchern, Kabel, Geräten	action	context	domain	1						1	1	1
83	Lieblingswebsite: Amazon	opinion	context	domain		x					1	1	1

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
83	mag einfache Webseiten, die schnell zum Ergebnis führen	opinion	context	domain			x				1	1	1
83	präferiert orange, blau und Grautöne	opinion	product	design			x				1	1	1
83	bevorzugt "leichtes" Design, wenig Bedienelemente	opinion	product	design			x	x			2	2	1
83	wenige private Daten preisgeben	opinion	context	user	1					x	1	1	1
83	viel Funktionalität	opinion	product	function				x			0	0	0
83	gute Suchfunktion steht im Mittelpunkt; Zusatzfunktionen die sinnvolle Analysen dessen liefern, was er gekauft hat.	opinion	product	usp				x		x	2	2	1
83	Online Medien: Angaben zur Qualität, Codec... Enthalten	opinion	product	function				x		x	1	2	1
83	Möchte Kommentare bewerten können	opinion	product	function				x			2	1	1
83	Inhalt von Playlists würde er sharen	opinion	context	user				x		x	1	1	2
83	keine Intenetnutzung über Handy	opinion	context	infrastructure	1			x			1	1	1
83	Kritik ist stärker als Lob	opinion	context	user						x	2	1	1
84	Nutzt den Rechner für privat, Uni und alles Mögliche	action	context	user	1						1	1	2
84	Inet täglich zwei bis drei Stunden für Uni, Arbeit und Infos	action	context	user	1						1	1	2
84	Itunes-Käufer	action	context	competitor		x					1	1	1
84	Kauft online elektronikartikel, Laptop, mp3, Bücher	action	context	domain	1						1	1	1
84	keine schlechten Erfahrungen beim Onlinekauf	experience	context	user	1						1	0	1
84	ist bereit eine Woche auf den Erhalt der Waren zu warten	opinion	context	user	1						2	1	1
84	kein Filesharing	action	context	user	1						1	1	1
84	verkauft Unibücher bei ebay mit einer sehr guten Verkaufserfahrung	experience	context	competitor		x					1	1	1
84	Er kreirt selber Software	action	context	user	1						2	1	1
84	Lieblingswebsites: spiegel online, winfuture	opinion	context	domain		x					1	1	1
84	Wenig Werbung, Wenig Ablenkung. Das ist wichtig	opinion	product	design			x			x	2	1	1
84	Websiten sollte übersichtlich und direkt sein	opinion	product	design			x			x	1	2	1
84	Ordentliche Darstellung mit großem Bild	opinion	product	function				x		x	1	2	1
84	Man darf nicht sehen dass die Site in 3 min mit Frontpage erstellt wurde	opinion	product	design			x	x			1	1	1
84	Hörbeispiele und Samples	opinion	product	function				x		x	1	2	1
84	Preisvergleich, Produktvergleich, 3d darstellung	opinion	product	function				x		x	2	2	2
84	Kreditkarte, Vorkasse	opinion	product	function				x			1	2	1
84	Will kein Profil von sich im Internet anlegen	opinion	context	competitor	1					x	1	1	1
84	Nutzt das Tel nicht für Internet	opinion	context	infrastructure	1			x			1	1	1
84	Ratings sind sehr wichtig	opinion	context	domain						x	1	1	1
84	Er möchte Kommentare und eine Skala	opinion	product	function				x		x	1	2	2
84	Er verlässt dsich aufs deutsche Rechtssystem um seine Rechte und sein Produkt zu bekommen	opinion	context	domain	1						1	0	1
84	Grupperkäufe findet er gut doch kann ers sich es nicht vorstellen wie man so etwas managen koennte	opinion	context	user	1						1	1	1

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
84	Er weiss nicht wie man denn so eine Gruppe aufbauen sollte	opinion	context	domain	1				x		1	1	1
84	Gruppeninterne Kommunikation: email oder Telephone	opinion	product	function					x		1	1	1
84	Chat ist wie sich zwischen Tür und Angel unterhallten	opinion	context	user					x		1	1	1
84	Statistiken wären sehr interessant	opinion	product	function				x		x	1	1	0
84	Verkäuferinfos: Konventionstgerechte Identifikationsmerkmale	opinion	product	usp						x	2	2	1
85	PC für: Forschung, email, Banking, AIESEC	action	context	user	1						1	1	2
85	Internet: vier Stunden täglich	action	context	user	1						1	1	2
85	einmal Probleme bei ebay	experience	context	competitor		x					1	1	0
85	Wartebereitschaft: 3 Tage	experience	context	user	1						2	1	1
85	Verkauft Bücher	action	context	user	1						2	1	1
85	Gute Erfahrungen mit Verkauf	experience	context	user	1						1	0	1
85	Farben unwichtig "schnuppe"	opinion	product	design			x				1	1	1
85	schlichtes Design, keinen Werbung, übersichtlich	opinion	product	design			x	x		x	1	1	1
85	ebay hat zu viele Bilder; zu überladen	opinion	product	design		x	x				2	2	1
85	lässt sich nicht von einem Laden inspirieren	opinion	context	user	1						2	1	1
85	weiß genau was er kaufen will. Sucht dann nur noch nach dem günstigsten Angebot	opinion	context	user	1						1	1	1
85	Produktempfehlungen sollten sinnvoll sein.	opinion	product	function						x	0	0	0
85	Preisvergleiche von mehreren Anbietern	opinion	product	function				x		x	1	2	1
85	Intenetverbindung kann nicht schnell genug sein.	opinion	context	infrastructure				x			0	1	1
85	Verkäufer: per Telefon in Kontakt treten	opinion	product	function					x		1	2	2
85	Ratings sind sehr wichtig	opinion	context	domain				x		x	1	1	1
85	mag keine Gruppenkäufe (dauert zu lange)	experience	context	user	1						1	1	1
85	zahlt lieber mehr um den Gegenstand schneller zu erhalten	opinion	context	user	1						2	1	2
85	telefonischer Rückrufservice von Providern sehr wünschenswert; Helpdesk -> nein	opinion	product	usp				x		x	1	2	1
85	Statistiken sind interessant aber bedenklich (Datenschutz)	opinion	context	user	1						2	1	1
85	Käuferinformationen: Was, wieviel verkauft	opinion	context	domain						x	1	2	1
85	Zustand der Ware als Information	opinion	product	function						x	1	1	1
86	Nutzt seinen PC um zu programmieren, Informationsbeschaffung, Kauf von Sachen	action	context	domain	1						1	1	1
86	Täglich 5h für research	action	context	user	1						1	1	2
86	Kauft bei eBay, Amazon, Spielehersteller, edv zeug	opinion	context	domain	1	x					1	1	1
86	kauft spiele, bücher, edv-zeug	action	context	domain	1						1	1	1
86	shared cd images und open source projekte	action	context	user	1						1	1	1
86	keine Onlineverkäufe	action	context	user	1						1	1	1
86	Lieblingswebsite: heise.de	opinion	context	domain		x					1	1	1
86	grün/blau	opinion	product	design			x				1	1	1

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
86	Seiten sollten icht überladen und klar strukturiert sein	opinion	product	design			x			x	1	2	1
86	In der Mitte der Seite die Information, an der Seite die Navigation	opinion	product	design			x	x			1	2	2
86	Es reichen ihm Photos zur Produktrepräsentation	opinion	product	function				x		x	1	2	1
86	er besucht amazon auf grund ihrer deko, weiss jedoch nicht warum	opinion	context	competitor		x	x				2	2	1
86	Er benötigt Suche und Kategorien um online zu shoppen	opinion	product	function				x			1	2	1
86	Bezahlung per Überweisung	opinion	context	domain				x			1	2	2
86	Kontakt zum Verkäufer ist wichtig über email und chat	opinion	context	domain				x	x		1	2	1
86	Ratings sind sehr wichtig	opinion	context	domain				x		x	1	1	1
86	Er würde gerne mit Kommentaren raten	opinion	product	function				x			1	2	1
86	Vertrauen wird durch ratings aufgebaut	opinion	context	user	1					x	1	1	1
86	kein Interesse an Gruppenkäufen/Interestgroups	opinion	context	user	1						1	1	1
86	Kommunikation mit dem SP über email und chat	opinion	context	domain					x		1	1	1
86	er findet Helpdesks / Suggestion Boxes sinnvoll	opinion	product	function				x		x	1	2	1
86	Stats sind unnötig	opinion	context	domain						x	1	1	1
86	Er würde Kontaktdaten, History und Hintergrund angeben	opinion	product	usp				x		x	1	2	1
86	Von seinen Käufern hätte er gerne Kontaktdaten und Adressen	opinion	context	user						x	1	1	1
87	Benutzt ihren PC für Uni-sachen	action	context	domain	1						1	1	1
87	Internet täglich eine halbe Stunde für Infos und email	action	context	user	1						1	1	2
87	Kauft bei Amazon Musik, Bücher, DVDs, Spiele	opinion	context	domain		x					1	1	1
87	Sehr zufrienden mit Amazon	opinion	context	competitor		x					1	1	1
87	ist bereit eine Woche auf den Erhalt der Waren zu warten	opinion	context	user	1						2	1	1
87	hat schon mal sachen verkauft (spiele, kleidung) bei ebay	opinion	context	domain		x					1	1	1
87	findet Onlineverkuaf gut, da sie offline wahrscheinlich keinen Käufer gefunden hätte	experience	context	domain		x					2	1	1
87	Lieblingswebsite: amazon, weil sie Bücher mag und direkt interessante Produkte sichtbar sind	opinion	context	domain		x					1	1	2
87	Farben sollten nicht so grell sein	opinion	product	design			x				1	1	1
87	Übersichtlichkeit ist sehr! Wichtig	opinion	context	design			x			x	1	2	1
87	Zahlungsbedingungen sollten einfach ersichtlich sein	opinion	context	domain				x			0	2	1
87	Sie geht gerne in den Ikea, weil dort Beispiele aufgebaut sind	opinion	context	user	1					x	1	1	2
87	Bild vom Cover und Sänger reicht zur Produktrepräsentation	opinion	product	function				x		x	1	2	1
87	Warenkorb, Kostenübersicht	opinion	product	function				x		x	1	2	1
87	OneClick Feature	opinion	product	function				x			1	1	1
87	Überweisung und Lastschrifft	opinion	context	domain				x			1	2	2

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
87	Mag sich nicht online präsentieren	action	context	user	1					x	1	1	1
87	Kontakt zum Verkäufer ist wichtig, über email	opinion	context	domain					x		1	1	1
87	Bewertungen spiele eine große Rolle beim Kauf	opinion	context	user				x		x	1	1	1
87	Wünsche mir eine Kombination aus Skalen und Kommentaren	opinion	product	function				x		x	1	2	2
87	Gruppenkäufe nur mit Leuten die sie offluine kennt	opinion	context	user	1						1	1	1
87	Kommunikation in der Gruppe über email	opinion	context	user					x		1	1	1
87	Sie würde SB und HD benutzen	opinion	context	user				x			0	0	0
87	Statistiken fändesie sehr interessant	opinion	product	function				x		x	1	2	1
87	Discographie bei Künstlern und Softwaredevelopmentqualifications of the Seller	opinion	product	usp						x	2	2	1
87	Negative Empfehlunge fallen mehr in ihr Gedächtnis	opinion	context	user						x	1	1	1
87	Sie würde alle Infos die sie hat (abgesehen von Persönlichem) den Käufern zukommen lassen	opinion	context	user	1					x	1	1	1
87	Bei Gruppenkäufen muss der Finanzverangwortliche vertrauenswürdig sein und die Weitergabe der Ware muss zuverlässig funktionieren	opinion	context	domain	1					x	2	1	1
88	Nutzung: Shopping, Informationsbeschaffung, Banking	action	context	user	1						1	1	2
88	Wartebereitschaft: Produktabhängig (1 -7 Tage)	opinion	context	user	1						2	1	1
88	Lieblingswebsite: peterzahlt (kostenlose Intenettelefonie)	opinion	context	domain		x					1	1	1
88	keine blinkende Elemente auf Webseiten	opinion	product	design			x				2	2	2
88	Webseiten sollten klar und übersichtlich sein	opinion	context	design			x				1	2	1
88	wenn möglich, dann persönlicher Kontakt zu Künstlern (per Videokonferenz)	opinion	product	function				x	x		1	2	1
88	Rating von Fremnden reicht um sich ein Urteil zu bilden	opinion	context	domain						x	2	2	1
88	Ruf des Händlers gibt Sicherheit beim Einkaufen	opinion	context	domain				x		x	1	1	1
88	Statistiken sind eher unnötig und bedenklich (Datenschutz)	opinion	context	user	1						2	1	1
88	Kontaktdaten vom Verkäufer	opinion	product	function						x	1	1	1
88	Durchschnittsalter von Käufergruppe interessant	opinion	product	function						x	1	1	1

Table 11.63: Puzzle Interview - Germany

User	role	scenario	Idea	category	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
94	buyer	A	Alter	important feature	opinion	product	function				x			1	2	1
94	buyer	A	Geschlecht	essential feature	opinion	product	function				x			1	2	1
94	buyer	A	Hobbies	essential feature	opinion	product	function				x			1	2	1
94	buyer	A	Adresse	unimportant feature	opinion	product	function				x			1	2	1
94	buyer	A	Avatar	essential feature	opinion	product	function				x			1	2	1
94	buyer	A	Profil	essential feature	opinion	product	function				x			1	2	1
94	buyer	A	Freundeslisten	essential feature	opinion	product	function				x			1	2	1
94	buyer	A	eigene Bilder	essential feature	opinion	product	function				x			1	2	1
94	buyer	A	E-Mail	important feature	opinion	product	function				x			1	2	1
94	buyer	A	Chat	essential feature	opinion	product	function				x			1	2	1
94	buyer	A	Forum	essential feature	opinion	product	function				x			1	2	1
94	buyer	A	Playlist	essential feature	opinion	product	function				x			1	2	1
94	buyer	A	Hintergrundmusik	important feature	opinion	product	function				x			1	2	1
94	buyer	A	Favoriten	essential feature	opinion	product	function				x			1	2	1
94	buyer	A	Invite a friend	essential feature	opinion	product	function				x			1	2	1
94	buyer	A	Pinnwand	important feature	opinion	product	function				x			1	2	1
94	buyer	A	Podcast	unimportant feature	opinion	product	function				x			1	2	1
94	buyer	B	Suche	essential feature	opinion	product	function				x			1	2	1
94	buyer	B	Produktkategorie	important feature	opinion	product	function				x			1	2	1
94	buyer	B	Forum	important feature	opinion	product	function				x			1	2	1
94	buyer	B	Bewertungssystem	essential feature	opinion	product	function				x			1	2	1
94	buyer	B	Audio-Stream	idea	opinion	product	function				x			1	2	0
94	buyer	B	Top 10	important feature	opinion	product	function				x			1	2	1
94	buyer	B	Invite a friend	unimportant feature	opinion	product	function				x			1	2	1
94	buyer	B	Pinnwand	unimportant feature	opinion	product	function				x			1	2	1
94	buyer	B	Kontakt zum Verkäufer	important feature	opinion	product	function				x			1	2	1
94	buyer	B	Verkäuferinformationen	essential feature	opinion	product	function				x			1	2	1
94	buyer	B	Favoriten	important feature	opinion	product	function				x			1	2	1

User	role	scenario	Idea	category	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
94	buyer	B	Download(informationen)	essential feature	opinion	product	function				x			1	2	1
94	buyer	B	Produktbeschreibung	essential feature	opinion	product	function				x			1	2	1
94	buyer	B	verschiedene Zahlungsmethoden	idea	opinion	product	function				x			1	2	0
94	buyer	B	Art Mindestpreis	essential feature	opinion	product	function				x			1	2	1
94	buyer	B	Kauf über Website als neutrale Schnittstelle	idea	opinion	context	domain	x						1	1	1
95	buyer	A	Favoriten	essential feature	opinion	product	function				x			1	2	1
95	buyer	A	Pinnwand	unimportant feature	opinion	product	function				x			1	2	1
95	buyer	A	E-Mail	essential feature	opinion	product	function				x			1	2	1
95	buyer	A	Adresse	unimportant feature	opinion	product	function				x			1	2	1
95	buyer	A	Geschlecht	important feature	opinion	product	function				x			1	2	1
95	buyer	A	Invite a friend	essential feature	opinion	product	function				x			1	2	1
95	buyer	A	Hintergrundmusik	essential feature	opinion	product	function				x			1	2	1
95	buyer	A	Alter	important feature	opinion	product	function				x			1	2	1
95	buyer	A	Hobbies	essential feature	opinion	product	function				x			1	2	1
95	buyer	A	Bilder	important feature	opinion	product	function				x			1	2	1
95	buyer	A	Chat	essential feature	opinion	product	function				x			1	2	1
95	buyer	A	Forum	essential feature	opinion	product	function				x			1	2	1
95	buyer	A	Avatar	important feature	opinion	product	function				x			1	2	1
95	buyer	A	Freundes-/Interessensgruppen	essential feature	opinion	product	function				x			1	2	1
95	buyer	A	Freundeslisten	essential feature	opinion	product	function				x			1	2	1
95	buyer	A	Profil	essential feature	opinion	product	function				x			1	2	1
95	buyer	A	Podcast	essential feature	opinion	product	function				x			1	2	1
95	buyer	B	Suchen	essential feature	opinion	product	function				x			1	2	1
95	buyer	B	Bewertungssystem	essential feature	opinion	product	function				x			1	2	1
95	buyer	B	Forum	essential feature	opinion	product	function				x			1	2	1
95	buyer	B	Produktbeschreibung	essential feature	opinion	product	function				x			1	2	1
95	buyer	B	Audio-Stream	essential feature	opinion	product	function				x			1	2	1
95	buyer	B	Download(informationen)	unimportant feature	opinion	product	function				x			1	2	1

User	role	scenario	Idea	category	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
95	buyer	B	Pinnwand	unimportant feature	opinion	product	function				x			1	2	1
95	buyer	B	Produktkategorie	essential feature	opinion	product	function				x			1	2	1
95	buyer	B	Verkäuferinformation	essential feature	opinion	product	function				x			1	2	1
95	buyer	B	Zahlungsmethode	essential feature	opinion	product	function				x			1	2	1
95	buyer	B	Downloadbenachrichtigung auf Desktop	essential feature	opinion	product	function				x			1	2	1
95	buyer	B	Download(informationen)	essential feature	opinion	product	function				x			1	2	1
95	buyer	B	Kontakt zum Künstler	essential feature	opinion	product	function				x			1	2	1
95	buyer	B	Kontakt zu Plattform	important feature	opinion	product	function				x			1	2	1
95	buyer	B	Invite a friend	important feature	opinion	product	function				x			1	2	1
95	buyer	B	beobachtete Produkte	unimportant feature	opinion	product	function				x			1	2	1
95	buyer	B	Hintergrundmusik	essential feature	opinion	product	function				x			1	2	1
95	buyer	B	Anzeigemöglichkeiten/Liste	important feature	opinion	product	function				x			1	2	1
95	buyer	B	sehen was andere zahlten	unimportant feature	opinion	product	function				x			1	2	1
96	seller	A	Adresse	unimportant feature	opinion	product	function				x			1	2	1
96	seller	A	Hintergrundmusik	essential feature	opinion	product	function				x			1	2	1
96	seller	A	Chat	essential feature	opinion	product	function				x			1	2	1
96	seller	A	Favoriten	essential feature	opinion	product	function				x			1	2	1
96	seller	A	Podcast	essential feature	opinion	product	function				x			1	2	1
96	seller	A	Pinnwand	essential feature	opinion	product	function				x			1	2	1
96	seller	A	Bilder	important feature	opinion	product	function				x			1	2	1
96	seller	A	Freundesgruppen	important feature	opinion	product	function				x			1	2	1
96	seller	A	Interessensgruppen	important feature	opinion	product	function				x			1	2	1
96	seller	A	Interessensgruppen	important feature	opinion	product	function				x			1	2	1
96	seller	A	Geschlecht	important feature	opinion	product	function				x			1	2	1
96	seller	A	Avatar	important feature	opinion	product	function				x			1	2	1
96	seller	A	Alter	important feature	opinion	product	function				x			1	2	1
96	seller	A	zu viele Profilpunkte	unimportant feature	opinion	product	function				x			1	2	1
96	seller	A	Hobbies	important feature	opinion	product	function				x			1	2	1

User	role	scenario	Idea	category	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
96	seller	A	E-Mail	essential feature	opinion	product	function				x			1	2	1
96	seller	A	Forum	essential feature	opinion	product	function				x			1	2	1
96	seller	A	Invite a friend	unimportant feature	opinion	product	function				x			1	2	1
96	seller	B	Podcast	essential feature	opinion	product	function				x			1	2	1
96	seller	B	Pinnwand	essential feature	opinion	product	function				x			1	2	1
96	seller	B	Hintergrundmusik	unimportant feature	opinion	product	function				x			1	2	1
96	seller	B	Invite a friend	unimportant feature	opinion	product	function				x			1	2	1
96	seller	B	Forum	essential feature	opinion	product	function				x			1	2	1
96	seller	B	Produktkategorie	essential feature	opinion	product	function				x			1	2	1
96	seller	B	Upload	essential feature	opinion	product	function				x			1	2	1
96	seller	B	Audio-Stream	essential feature	opinion	product	function				x			1	2	1
96	seller	B	verschiedene Zahlungsmethoden	essential feature	opinion	product	function				x			1	2	1
96	seller	B	Favoriten	essential feature	opinion	product	function				x			1	2	1
96	seller	B	Kontakt	important feature	opinion	product	function				x			1	2	1
96	seller	B	Produktbeschreibung	essential feature	opinion	product	function				x			1	2	1
96	seller	B	Anzeigemöglichkeiten/Liste	unimportant feature	opinion	product	function				x			1	2	1
96	seller	B	Suche	essential feature	opinion	product	function				x			1	2	1
96	seller	B	Bewertungssystem	essential feature	opinion	product	function				x			1	2	1
97	seller	A	Chat	important feature	opinion	product	function				x			1	2	1
97	seller	A	E-Mail	essential feature	opinion	product	function				x			1	2	1
97	seller	A	Freundeslisten	important feature	opinion	product	function				x			1	2	1
97	seller	A	Kontaktadresse	essential feature	opinion	product	function				x			1	2	1
97	seller	A	Forum	essential feature	opinion	product	function				x			1	2	1
97	seller	A	Geschlecht	important feature	opinion	product	function				x			1	2	1
97	seller	A	Hobbies	unimportant feature	opinion	product	function				x			1	2	1
97	seller	A	eigene Bilder	essential feature	opinion	product	function				x			1	2	1
97	seller	A	Avatar	essential feature	opinion	product	function				x			1	2	1
97	seller	A	Alter	essential feature	opinion	product	function				x			1	2	1

User	role	scenario	Idea	category	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
97	seller	A	Pinnwand	essential feature	opinion	product	function				x			1	2	1
97	seller	A	Hintergrundmusik	essential feature	opinion	product	function				x			1	2	1
97	seller	A	Interessensgruppen	essential feature	opinion	product	function				x			1	2	1
97	seller	A	Invite a friend	essential feature	opinion	product	function				x			1	2	1
97	seller	A	Profil	essential feature	opinion	product	function				x			1	2	1
97	seller	A	Favoriten	important feature	opinion	product	function				x			1	2	1
97	seller	B	Upload	essential feature	opinion	product	function				x			1	2	1
97	seller	B	Download(informationen)	essential feature	opinion	product	function				x			1	2	1
97	seller	B	Bewertungssystem	essential feature	opinion	product	function				x			1	2	1
97	seller	B	Empfehlungen	important feature	opinion	product	function				x			1	2	1
97	seller	B	Zahlungsmethoden	essential feature	opinion	product	function				x			1	2	1
97	seller	B	Suche	essential feature	opinion	product	function				x			1	2	1
97	seller	B	Audio-Stream	essential feature	opinion	product	function				x			1	2	1
97	seller	B	Verkäuferinformationen	essential feature	opinion	product	function				x			1	2	1
97	seller	B	Produktbeschreibung	essential feature	opinion	product	function				x			1	2	1
97	seller	B	Forum	essential feature	opinion	product	function				x			1	2	1
97	seller	B	Pinnwand	unimportant feature	opinion	product	function				x			1	2	1
97	seller	B	Invite a friend	essential feature	opinion	product	function				x			1	2	1
97	seller	B	Kontakt zum Verkäufer	important feature	opinion	product	function				x			1	2	1
97	seller	B	Uploadinfos	essential feature	opinion	product	function				x			1	2	1
97	seller	B	Produktkategorien	important feature	opinion	product	function				x			1	2	1
97	seller	B	Anzeigemöglichkeiten/Liste	essential feature	opinion	product	function				x			1	2	1
97	seller	B	Podcast	important feature	opinion	product	function				x			1	2	1
98	seller	A	Adresse	unimportant feature	opinion	product	function				x			1	2	1
98	seller	A	E-Mail	important feature	opinion	product	function				x			1	2	1
98	seller	A	Hintergrundmusik	unimportant feature	opinion	product	function				x			1	2	1
98	seller	A	Chat	unimportant feature	opinion	product	function				x			1	2	1
98	seller	A	Hobbies	important feature	opinion	product	function				x			1	2	1

User	role	scenario	Idea	category	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
98	seller	A	Favoriten	essential feature	opinion	product	function				x			1	2	1
98	seller	A	Avatar	essential feature	opinion	product	function				x			1	2	1
98	seller	A	Podcast	essential feature	opinion	product	function				x			1	2	1
98	seller	A	Pinnwand	essential feature	opinion	product	function				x			1	2	1
98	seller	A	Bilder	important feature	opinion	product	function				x			1	2	1
98	seller	A	Freundesgruppen	unimportant feature	opinion	product	function				x			1	2	1
98	seller	A	Interessensgruppen	essential feature	opinion	product	function				x			1	2	1
98	seller	A	Interessensgruppen	essential feature	opinion	product	function				x			1	2	1
98	seller	A	Geschlecht	important feature	opinion	product	function				x			1	2	1
98	seller	A	Alter	important feature	opinion	product	function				x			1	2	1
98	seller	A	Forum	important feature	opinion	product	function				x			1	2	1
98	seller	A	Invite a friend	unimportant feature	opinion	product	function				x			1	2	1
98	seller	B	Upload	essential feature	opinion	product	function				x			1	2	1
98	seller	B	Uploadinfos	essential feature	opinion	product	function				x			1	2	1
98	seller	B	Bewertungssystem	essential feature	opinion	product	function				x			1	2	1
98	seller	B	Empfehlungen	essential feature	opinion	product	function				x			1	2	1
98	seller	B	Zahlungsmethoden	essential feature	opinion	product	function				x			1	2	1
98	seller	B	Suche	essential feature	opinion	product	function				x			1	2	1
98	seller	B	Audio-Stream	essential feature	opinion	product	function				x			1	2	1
98	seller	B	Verkäuferinformationen	essential feature	opinion	product	function				x			1	2	1
98	seller	B	Produktbeschreibung	essential feature	opinion	product	function				x			1	2	1
98	seller	B	Forum	important feature	opinion	product	function				x			1	2	1
98	seller	B	Anzeigemöglichkeiten/Liste	essential feature	opinion	product	function				x			1	2	1
98	seller	B	Pinnwand	unimportant feature	opinion	product	function				x			1	2	1
98	seller	B	Podcast	important feature	opinion	product	function				x			1	2	1
98	seller	B	Invite a friend	essential feature	opinion	product	function				x			1	2	1
98	seller	B	Kontakt zum Verkäufer	important feature	opinion	product	function				x			1	2	1
98	seller	B	Produktkategorien	important feature	opinion	product	function				x			1	2	1

User	role	scenario	Idea	category	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
89	buyer	A	Alter	essential feature	opinion	product	function				x			1	2	1
89	buyer	A	Adresse	unimportant feature	opinion	product	function				x			1	2	1
89	buyer	A	Favoritenangabe	essential feature	opinion	product	function				x			1	2	1
89	buyer	A	Hintergrundmusik	essential feature	opinion	product	function				x			1	2	1
89	buyer	A	eigene Bilder	essential feature	opinion	product	function				x			1	2	1
89	buyer	A	Chat	important feature	opinion	product	function				x			1	2	1
89	buyer	A	E-Mail	essential feature	opinion	product	function				x			1	2	1
89	buyer	A	Nachrichtendienst	essential feature	opinion	product	function				x			1	2	1
89	buyer	A	Forum	essential feature	opinion	product	function				x			1	2	1
89	buyer	A	Invite a friend	essential feature	opinion	product	function				x			1	2	1
89	buyer	A	Podcast	unimportant feature	opinion	product	function				x			1	2	1
89	buyer	A	Pinnwand	important feature	opinion	product	function				x			1	2	1
89	buyer	A	eigene Bildergallerie	important feature	opinion	product	function				x			1	2	1
89	buyer	A	Interessensgruppen	unimportant feature	opinion	product	function				x			1	2	1
89	buyer	A	Hobbies	essential feature	opinion	product	function				x			1	2	1
89	buyer	B	Bewertungssystem	essential feature	opinion	product	function				x			1	2	1
89	buyer	B	Suchfunktion	essential feature	opinion	product	function				x			1	2	1
89	buyer	B	unterschiedliche Zahlungsmethoden	essential feature	opinion	product	function				x			1	2	1
89	buyer	B	Verkäuferinformation	essential feature	opinion	product	function				x			1	2	1
89	buyer	B	einfacher Download	unimportant feature	opinion	product	function				x			1	2	1
89	buyer	B	Download(informationen)	essential feature	opinion	product	function				x			1	2	1
89	buyer	B	Pinnwand	unimportant feature	opinion	product	function				x			1	2	1
89	buyer	B	Top 10	important feature	opinion	product	function				x			1	2	1
89	buyer	B	Anzeigemöglichkeiten/Liste	important feature	opinion	product	function				x			1	2	1
89	buyer	B	Audio-Stream	essential feature	opinion	product	function				x			1	2	1
89	buyer	B	Hintergrundmusik	essential feature	opinion	product	function				x			1	2	1
89	buyer	B	Produktbeschreibung	important feature	opinion	product	function				x			1	2	1
89	buyer	B	Invite a friend	important feature	opinion	product	function				x			1	2	1

User	role	scenario	Idea	category	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
89	buyer	B	Produktkategorien	essential feature	opinion	product	function				x			1	2	1
89	buyer	B	beobachtete Produkte	essential feature	opinion	product	function				x			1	2	1
89	buyer	B	Kontakt zum Verkäufer	essential feature	opinion	product	function				x			1	2	1
89	buyer	B	Freunde/Community	essential feature	opinion	product	function				x			1	2	1
89	buyer	B	Forum	unimportant feature	opinion	product	function				x			1	2	1
89	buyer	B	Farbliche Gestaltung	essential feature	opinion	product	function				x			1	2	1
89	buyer	B	schnelles Zugreifen möglich	essential feature	opinion	product	function				x			1	2	1
90	buyer	A	schnelles Profilanlegen	essential feature	opinion	product	function				x			1	2	1
90	buyer	A	Geschlecht	important feature	opinion	product	function				x			1	2	1
90	buyer	A	Alter	essential feature	opinion	product	function				x			1	2	1
90	buyer	A	Avatar	essential feature	opinion	product	function				x			1	2	1
90	buyer	A	eigene Bilder	essential feature	opinion	product	function				x			1	2	1
90	buyer	A	Adresse	unimportant feature	opinion	product	function				x			1	2	1
90	buyer	A	E-Mail	unimportant feature	opinion	product	function				x			1	2	1
90	buyer	A	gesonderter Nachrichtendienst	essential feature	opinion	product	function				x			1	2	1
90	buyer	A	Mindestpreise	essential feature	opinion	product	function				x			1	2	1
90	buyer	A	Pinnwand	essential feature	opinion	product	function				x			1	2	1
90	buyer	A	Podcast	essential feature	opinion	product	function				x			1	2	1
90	buyer	A	Hintergrundmusik	essential feature	opinion	product	function				x			1	2	1
90	buyer	A	Playlist anderer User hören können	essential feature	opinion	product	function				x			1	2	1
90	buyer	A	Chat	essential feature	opinion	product	function				x			1	2	1
90	buyer	A	Freundeverzeichnis	important feature	opinion	product	function				x			1	2	1
90	buyer	A	Hobbies	unimportant feature	opinion	product	function				x			1	2	1
90	buyer	A	Selbstgestaltung des Hintergrundes/Layouts	essential feature	opinion	product	function				x			1	2	1
90	buyer	B	Produktkategorie	essential feature	opinion	product	function				x			1	2	1
90	buyer	B	Suche	essential feature	opinion	product	function				x			1	2	1
90	buyer	B	Anzeigemöglichkeiten/Liste	important feature	opinion	product	function				x			1	2	1
90	buyer	B	Bewertungssystem	essential feature	opinion	product	function				x			1	2	1

User	role	scenario	Idea	category	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
90	buyer	B	Top 10	essential feature	opinion	product	function				x			1	2	1
90	buyer	B	Download(informationen)	essential feature	opinion	product	function				x			1	2	1
90	buyer	B	verschiedene Zahlungsmethoden	essential feature	opinion	product	function				x			1	2	1
90	buyer	B	einfache Downloadfunktion	important feature	opinion	product	function				x			1	2	1
90	buyer	B	Pinnwand	unimportant feature	opinion	product	function				x			1	2	1
90	buyer	B	Invite a friend	unimportant feature	opinion	product	function				x			1	2	1
90	buyer	B	Produktinformation	important feature	opinion	product	function				x			1	2	1
90	buyer	B	Forum	important feature	opinion	product	function				x			1	2	1
90	buyer	B	Hintergrundmusik	essential feature	opinion	product	function				x			1	2	1
90	buyer	B	Audio-Stream	essential feature	opinion	product	function				x			1	2	1
90	buyer	B	Verkäuferinformation	important feature	opinion	product	function				x			1	2	1
90	buyer	B	Community	essential feature	opinion	product	function				x			1	2	1
90	buyer	B	Favoritenanzeige	essential feature	opinion	product	function				x			1	2	1
90	buyer	B	Kontakt zum Verkäufer	important feature	opinion	product	function				x			1	2	1
90	buyer	B	passendes Abspielprogramm zur Verfügung stellen	essential feature	opinion	product	function				x			1	2	1
91	seller	A	Hintergrundmusik	unimportant feature	opinion	product	function				x			1	2	1
91	seller	A	persönliche Playlist	essential feature	opinion	product	function				x			1	2	1
91	seller	A	Hobbies	important feature	opinion	product	function				x			1	2	1
91	seller	A	eigene Bilder	essential feature	opinion	product	function				x			1	2	1
91	seller	A	E-Mail	essential feature	opinion	product	function				x			1	2	1
91	seller	A	Forum	unimportant feature	opinion	product	function				x			1	2	1
91	seller	A	Adresse	important feature	opinion	product	function				x			1	2	1
91	seller	A	private Freundesliste	important feature	opinion	product	function				x			1	2	1
91	seller	A	Liste von Geschäftsfreunden	essential feature	opinion	product	function				x			1	2	1
91	seller	A	Pinnwand	essential feature	opinion	product	function				x			1	2	1
91	seller	A	Alter	important feature	opinion	product	function				x			1	2	1
91	seller	A	Favoritenanzeige	essential feature	opinion	product	function				x			1	2	1
91	seller	A	Chat	unimportant feature	opinion	product	function				x			1	2	1

User	role	scenario	Idea	category	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
91	seller	A	Avatar	essential feature	opinion	product	function				x			1	2	1
91	seller	A	Invite a friend	essential feature	opinion	product	function				x			1	2	1
91	seller	A	Podcast	essential feature	opinion	product	function				x			1	2	1
91	seller	A	Hilfefunktion	essential feature	opinion	product	function				x			1	2	1
91	seller	A	Design-Gestaltung	essential feature	opinion	product	function				x			1	2	1
91	seller	B	Produktbeschreibung	essential feature	opinion	product	function				x			1	2	1
91	seller	B	Pinnwand	unimportant feature	opinion	product	function				x			1	2	1
91	seller	B	Suche	essential feature	opinion	product	function				x			1	2	1
91	seller	B	Produktkategorie	essential feature	opinion	product	function				x			1	2	1
91	seller	B	Kontakt zum Verkäufer	essential feature	opinion	product	function				x			1	2	1
91	seller	B	Empfehlungssystem	important feature	opinion	product	function				x			1	2	1
91	seller	B	Audio-Stream	essential feature	opinion	product	function				x			1	2	1
91	seller	B	Favoritenanzeige	essential feature	opinion	product	function				x			1	2	1
91	seller	B	Bewertungssystem	essential feature	opinion	product	function				x			1	2	1
91	seller	B	Anzeigemöglichkeiten/Liste	essential feature	opinion	product	function				x			1	2	1
91	seller	B	Forum	unimportant feature	opinion	product	function				x			1	2	1
91	seller	B	sicheres Zahlungssystem	essential feature	opinion	product	function				x			1	2	1
91	seller	B	Uploadinfos	essential feature	opinion	product	function				x			1	2	1
91	seller	B	Download(informationen)	essential feature	opinion	product	function				x			1	2	1
91	seller	B	Kontrolle - Wer war warum auf meiner Seite	essential feature	opinion	product	function				x			1	2	1
91	seller	B	Invite a friend	essential feature	opinion	product	function				x			1	2	1
91	seller	B	Podcast	important feature	opinion	product	function				x			1	2	1
91	seller	B	Hintergrundmusik	unimportant feature	opinion	product	function				x			1	2	1
92	seller	A	Profil	essential feature	opinion	product	function				x			1	2	1
92	seller	A	Avatar	essential feature	opinion	product	function				x			1	2	1
92	seller	A	Geschlecht	essential feature	opinion	product	function				x			1	2	1
92	seller	A	Hobbies	unimportant feature	opinion	product	function				x			1	2	1
92	seller	A	Forum	unimportant feature	opinion	product	function				x			1	2	1

User	role	scenario	Idea	category	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
92	seller	A	Interessensgruppen	essential feature	opinion	product	function				x			1	2	1
92	seller	A	Chat	important feature	opinion	product	function				x			1	2	1
92	seller	A	Hintergrundmusik	unimportant feature	opinion	product	function				x			1	2	1
92	seller	A	E-Mail	unimportant feature	opinion	product	function				x			1	2	1
92	seller	A	Invite a friend	important feature	opinion	product	function				x			1	2	1
92	seller	A	eigene Bilder	essential feature	opinion	product	function				x			1	2	1
92	seller	A	Alter	important feature	opinion	product	function				x			1	2	1
92	seller	A	Pinnwand	essential feature	opinion	product	function				x			1	2	1
92	seller	A	Favoriten	essential feature	opinion	product	function				x			1	2	1
92	seller	A	eigene Gestaltungsmöglichkeiten	important feature	opinion	product	function				x			1	2	1
92	seller	B	Produktkategorie	essential feature	opinion	product	function				x			1	2	1
92	seller	B	Podcast	essential feature	opinion	product	function				x			1	2	1
92	seller	B	Upload	essential feature	opinion	product	function				x			1	2	1
92	seller	B	Audio-Stream	important feature	opinion	product	function				x			1	2	1
92	seller	B	Bewertungssystem	essential feature	opinion	product	function				x			1	2	1
92	seller	B	Pinnwand	essential feature	opinion	product	function				x			1	2	1
92	seller	B	Forum	important feature	opinion	product	function				x			1	2	1
92	seller	B	Invite a friend	essential feature	opinion	product	function				x			1	2	1
92	seller	B	Produktbeschreibung	essential feature	opinion	product	function				x			1	2	1
92	seller	B	Download(informationen)	essential feature	opinion	product	function				x			1	2	1
92	seller	B	Zahlungsmethode	essential feature	opinion	product	function				x			1	2	1
92	seller	B	Analysefunktion	essential feature	opinion	product	function				x			1	2	1
92	seller	B	Hintergrundmusik	important feature	opinion	product	function				x			1	2	1
92	seller	B	Kontakt zum Käufer	essential feature	opinion	product	function				x			1	2	1
92	seller	B	Verkäuferinformation	essential feature	opinion	product	function				x			1	2	1
92	seller	B	Anzeigemöglichkeiten/Liste	essential feature	opinion	product	function				x			1	2	1
92	seller	B	Favoriten	essential feature	opinion	product	function				x			1	2	1
93	buyer	A	E-Mail	important feature	opinion	product	function				x			1	2	1

User	role	scenario	Idea	category	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
93	buyer	A	Forum	essential feature	opinion	product	function				x			1	2	1
93	buyer	A	Hobbies	essential feature	opinion	product	function				x			1	2	1
93	buyer	A	Geschlecht	important feature	opinion	product	function				x			1	2	1
93	buyer	A	Favoriten	essential feature	opinion	product	function				x			1	2	1
93	buyer	A	Hintergrundmusik	unimportant feature	opinion	product	function				x			1	2	1
93	buyer	A	eigene Bilder	essential feature	opinion	product	function				x			1	2	1
93	buyer	A	Avatar	essential feature	opinion	product	function				x			1	2	1
93	buyer	A	Pinnwand	essential feature	opinion	product	function				x			1	2	1
93	buyer	A	Profil allgemein	idea	opinion	product	function				x			1	2	0
93	buyer	A	Podcast	essential feature	opinion	product	function				x			1	2	1
93	buyer	A	Chat	important feature	opinion	product	function				x			1	2	1
93	buyer	A	Invite a friend	important feature	opinion	product	function				x			1	2	1
93	buyer	A	Freundes-/Interessensgruppen	essential feature	opinion	product	function				x			1	2	1
93	buyer	B	Suche	essential feature	opinion	product	function				x			1	2	1
93	buyer	B	Bewertungssystem	essential feature	opinion	product	function				x			1	2	1
93	buyer	B	Audio-Stream	essential feature	opinion	product	function				x			1	2	1
93	buyer	B	Favoriten	essential feature	opinion	product	function				x			1	2	1
93	buyer	B	Verkäuferinformation	essential feature	opinion	product	function				x			1	2	1
93	buyer	B	Zahlungsmethode	essential feature	opinion	product	function				x			1	2	1
93	buyer	B	Kontakt zum Verkäufer	essential feature	opinion	product	function				x			1	2	1
93	buyer	B	Hintergrundmusik	important feature	opinion	product	function				x			1	2	1
93	buyer	B	Produktkategorien	essential feature	opinion	product	function				x			1	2	1
93	buyer	B	Empfehlungen	essential feature	opinion	product	function				x			1	2	1
93	buyer	B	Pinnwand	unimportant feature	opinion	product	function				x			1	2	1
93	buyer	B	Produktbeschreibung	essential feature	opinion	product	function				x			1	2	1
93	buyer	B	Download(informationen)	essential feature	opinion	product	function				x			1	2	1
93	buyer	B	Forum	unimportant feature	opinion	product	function				x			1	2	1
93	buyer	B	Anzeigemöglichkeiten/Liste	important feature	opinion	product	function				x			1	2	1
93	buyer	B	Podcast	important feature	opinion	product	function				x			1	2	1

User	role	scenario	Idea	category	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
93	buyer	B	Invite a friend	important feature	opinion	product	function				x			1	2	1
93	buyer	B	wichtig: klassischer Aufbau	idea	opinion	product	design			x				1	2	1

Table 11.64: Focus Gorups - Germany

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
1	Skype funktioniert genau dann nicht, wenn man es braucht	experience	context	competitor		x					1	0	1
1	Noch keine Musik online gekauft	experience	context	user	x						1	1	2
1	Akzeptabel wäre es bei Amazon, aber schon Probleme beim Anlegen des Profils	opinion	context	competitor		x	x	x			1	1	1
1	Bezahlung per Kreditkarte ist zu kompliziert, unsicher	opinion	context	domain	x			x			1	2	1
1	Einmal anmelden, immer nutzen können	opinion	product	usp				x			2	2	1
1	Benutzt Media Player	action	context	competitor		x					1	1	1
1	einfacher Datenaustausch wäre wichtig	opinion	product	function				x			1	1	1
1	kein Kauf und kein Zurückspringen möglich (lastFM)	experience	context	competitor		x					1	0	1
1	Kombination von lastFM und Kauf wäre gut	opinion	product	usp		x		x			2	1	1
1	Media Player ist vorinstalliert	opinion	context	domain		x					0	0	1
1	Plattform muss schnell, zuverlässig und immer erreichbar sein.	opinion	context	infrastructure				x			1	1	1
1	keine Werbung!	opinion	product	design			x				1	1	1
1	Plattform sollte klar strukturiert sein. Klare Trennung von Musik und Filmen.	opinion	product	design			x				1	2	2
1	Webradio mit Möglichkeit Titel zu kaufen	opinion	product	function				x			2	2	2
2	letze Woche Musik runtergeladen	action	context	user	x						1	1	1
2	Würde Musik kaufen, wenn kein DRM. Titel müssen beliebig oft kopierbar sein	opinion	context	user	x			x			1	2	2
2	edonkey ist sehr einfach und kostet nichts	experience	context	domain	x						1	1	1
2	noch ein neues Profil	opinion	product	user				x			1	1	1
2	Produkt muss kompatibel zu bereits installierten Playern sein.	opinion	product	function				x			1	2	2
2	Nutzt VLC und Winamp	action	context	competitor		x					1	1	1
2	Abspielmöglichkeit auf Handy wäre schön.	opinion	product	function				x			2	2	2
2	kein lokaler Speicherplatz, alles Online	opinion	product	function				x			2	1	1
2	Will das gesamte Lied probehören.	opinion	product	function				x		x	1	2	2

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
2	Früher war Winamp besser, heute nicht mehr	experience	context	competitor		x					1	1	1
2	Die Funktionen müssen einfach und durchsichtig sein.	opinion	product	design			x	x			1	2	1
2	Preise/Kosten müssen leicht ersichtlich sein.	opinion	product	usp				x		x	1	2	1
2	Chatfunktion unnötig	opinion	product	function				x	x		1	1	1
2	Lyrics wären schön.	opinion	product	usp				x		x	1	1	1
3	vor 2 Monaten Musik runtergeladen	action	context	user	x						1	1	1
3	Kauft bei Musicload	action	context	user		x					1	1	1
3	Nutzt Media Player	action	context	competitor		x					1	1	1
3	wenn alles nur noch online verfügbar immer auf Internet angewiesen (-)	opinion	product	function				x	x		1	2	1
3	Fühlt sich "verarscht", wenn man ehrlich Titel kauft und sie dann wegen DRM nicht mehr nutzen kann	experience	context	user	x			x			1	2	1
3	Will in verschiedenen Genres suchen können.	opinion	product	function				x		x	2	2	2
3	Die Plattform muss ohne Bedienungsanleitung benutzbar sein.	opinion	product	usp			x	x			0	2	0
3	Kontakt zu Anbieter wäre sehr wichtig, bei Problemen etc.	opinion	product	usp				x	x		1	1	1
3	Kontakt zu Nutzern mit gleichem Musikgeschmack	opinion	product	function				x	x		1	2	1
4	noch nie Musik runtergeladen	action	context	user	x						1	1	1
4	Bezahlsystem von Musicload (über Telefonrechnung) einfach	experience	context	competitor		x		x			2	2	2
4	Ähnlich wie iTunes.	experience	context	competitor		x					1	1	1
4	Die Preisgestaltung muss transparent sein.	opinion	product	usp				x		x	1	2	1
4	Nutzt VLC	action	context	competitor		x					1	1	1
4	Design und Layout müssen anpassbar sein	opinion	product	design			x	x			1	2	1
4	Sicherheit der Zahlungsmethode ist sehr wichtig.	opinion	product	function				x			1	2	1
4	Aber keine neuen Anmeldungen/Profile gewünscht.	opinion	product	function			x	x			2	2	2
5	Nutzt Winamp und Mediaplayer	action	context	competitor		x					1	1	1
5	Kontakt zu Künstelrn wäre schön.	opinion	product	usp				x	x		1	1	1
5	Möglichkeit Lieder probezuhören muss sein.	opinion	product	function				x			1	2	2
44	Online Musikkauf ist zu teuer	experience	context	domain	x						1	1	1
44	ca. 1 Monat her, kostenlos	action	context	user	x						1	1	1
44	Produkt gibt es schon: myspace	experience	product	competitor		x					1	0	1
44	Künstler kommt nicht ins Radio	opinion	context	domain	x						1	0	1

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
44	nicht nur Kreditkarte als Bezahlmöglichkeit	opinion	product	function				x			1	2	1
44	kein DRM	opinion	product	function				x			1	1	1
44	plattformunabhängig	opinion	product	function			x	x			1	2	1
44	Man muss Lieder probe hören können	opinion	product	function				x		x	1	2	1
44	nutzt itunes/vlc	action	context	competitor		x					1	1	1
44	Findet CoverFlow von itunes gut	experience	context	competitor		x	x	x			2	1	2
44	DVDs sind zu teuer	opinion	context	domain	x						1	1	1
44	Kritiken von anderen Nutzern, was hören andere	opinion	product	function				x	x		1	2	1
44	Plattform nicht webbasiert, da zu langsam	opinion	product	function				x			2	1	1
44	Verweise auf ähnliche Produkte wären gut	opinion	product	function				x		x	1	2	1
44	20 Sekunden Probehören reichen aus	opinion	product	function				x		x	1	2	1
44	Webstream wäre schön	opinion	product	function				x			1	2	1
44	Legt Wert auf gute Qualität	opinion	context	user	x						0	1	1
44	Kunden interessiert nur der Preis pro Lied	opinion	context	user	x						1	1	2
44	Cover wäre wichtig	opinion	product	usp			x	x			2	2	2
44	Blog wäre schön	opinion	product	function				x	x		1	1	1
45	DRM ist wichtig, aber die Lizenzen müssen einfach zu handhaben sein	opinion	product	function				x			1	1	1
45	ca. 1 Monat her, kostenlos	action	context	user	x						1	1	1
45	Wichtig, dass man Titel bewerten kann und die Bewertungen für jeden einsehbar sind	opinion	product	function				x		x	1	2	2
45	Verweis auf Bewertungen bzgl. Sprache, Qualität und Plattformunabhängigkeit	opinion	product	usp				x	x	x	2	2	2
45	PayPal durch ebay Standard	experience	context	competitor		x		x			1	2	2
45	Nutzt Winamp	action	context	competitor		x					1	1	1
45	ICQ-mäßiges Design wäre gut	opinion	product	design		x	x				2	2	1
45	Hompage des Künstlers	opinion	product	function				x		x	1	1	1
46	Filme vor 2 Wochen, kostenlos	action	context	user	x						1	1	1
46	Wenn man Musik online kauft, dann spart man fast nichts	experience	context	domain		x					1	1	1
46	Bei Myspace fehlt der kommerzielle Gedanke	opinion	context	competitor		x					1	0	1
46	Es sollte Werbung im Radio für die Plattform gemacht werden	opinion	context	domain						x	1	1	2
46	hört keine Musik auf PC	action	context	user	x						1	1	1
46	Würde mehr Musik online kaufen, wenn man sie einfacher auf einen tragbaren Player überspielen könnte	action	context	domain	x			x			2	1	1
46	Visualisierung unnötig	opinion	product	function				x		x	1	2	1
46	Sucht lieber direkt und stimmt #44 deshalb nicht zu	opinion	product	function				x		x	2	1	1
46	Kein Ersatz für Webradio	opinion	product	function				x			1	1	1
46	Konzerne drücken keine Preis	experience	context	domain		x					1	1	1

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
46	Plattform soll einfach zu bedienen sein	opinion	product	usp			x	x			0	1	0
46	Lieder müssen günstig sein	opinion	context	user	x						1	1	1
47	Hat im Dezember 2005 das letzte Mal Musik online gekauft (musicload)	action	context	user	x						1	1	1
47	Bezahlsystem sollte sein wie bei musicload (+)	opinion	product	function		x		x			2	2	1
47	Musicload: Einfache Anmeldung, Zahlung	experience	context	competitor		x					2	2	2
47	Beteiligt sich nicht an Diskussionen online	opinion	context	user	x						1	1	1
47	Preis muss deutlich unter 50% vom Ladenpreis liegen	opinion	product	domain	x						1	1	2
47	Einfache Synchronisation ist wichtig	opinion	product	function				x			2	2	1
47	DVDs in der Videothek ausleihen und kopieren	action	context	user	x						1	1	1
47	Vorschau wäre wichtig, 20 Sekunden reichen	opinion	product	function				x		x	1	2	1
47	keine Kategorien, da unübersichtlich	opinion	product	function				x		x	2	2	1
47	Lyrics wären schön	opinion	product	function				x		x	2	2	1
47	Musiker wären unabhängiger	opinion	context	domain	x						1	0	1
47	Mir wäre Support wichtig	opinion	product	usp					x	x	1	2	1
48	Kauft Musik bei Napster	action	context	competitor		x					1	1	2
48	Kontakt zwischen Käufern schlecht für Plattform	opinion	product	function				x	x		2	2	1
48	Findet lastFM gut	experience	context	competitor	x	x					1	1	1
48	Sieht Chance für Webradio-Funktion	opinion	product	function				x			2	2	1
48	Trailer, Vorschau wäre wichtig	opinion	product	function				x		x	1	2	1
49	Bezahlung per Kreditkarte ist schlecht	opinion	context	domain				x			1	2	0
49	Diskussion über DRM -> Aufwand minimieren	opinion	context	domain		x					1	0	1
49	Plattform soll flexibel sein	opinion	product	design			x	x			1	1	0
49	Anpassung an unterschiedliche Ansprüche	opinion	product	design			x	x			1	2	1
49	Sharing? -> Kontaktmöglichkeit: Chat	opinion	product	function				x	x		1	2	2
49	Hörproben wären gut, evtl. Rezssionen	opinion	product	function				x			1	2	1
49	unterschiedliche Download-Qualität	opinion	product	usp				x			1	1	1
49	Vorschau sollte repräsentativ sein	opinion	product	function						x	1	1	1
49	sieht Risiken (Diebstahl)	opinion	context	domain				x	x		1	1	0
49	Maxdome zu teuer	experience	context	competitor		x					1	1	1
49	Präsentation der angebotenen Ware	opinion	product	function			x	x			0	1	0
49	Maxdome schlecht	experience	context	competitor		x					1	1	1
49	Auflistung der Titel + Ribbons (Vorschau)	opinion	product	design			x				2	2	1
49	Einfachheit	opinion	product	usp			x	x			0	1	0
49	kaufe CD, aber keine Single	action	context	user	x						1	1	1

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
49	Frage wie Label rauszunehmen (kritisch)	opinion	context	domain	x						0	0	1
49	Hinterfragt kritisch ob Qualitätsverlust, wenn kein Label beteiligt	opinion	context	domain	x						0	0	1
49	Vorteil für kleine Künstler	opinion	context	domain	x						1	0	1
49	Aber: Label sind nicht zu verdrängen	opinion	context	domain	x						0	0	1
50	Nutzt itunes und russischen Anbieter (per Kreditkarte Konto aufladen + Bonus)	action	context	user		x					1	1	1
50	DRM (-)	experience	context	domain		x		x			1	1	1
50	Webbrowser (+)	opinion	product	function				x			1	2	1
50	automatischer Download	opinion	product	function				x			1	1	1
50	Rezession schlecht	experience	product	function				x		x	1	1	1
50	Zustimmung zu lastFM	experience	context	competitor	x	x					1	1	1
50	Vorschau wäre nice-to-have	opinion	product	function				x		x	1	1	1
50	hörbare Chartliste	opinion	product	function				x			2	1	1
50	Zufallswiedergabe Vorschau	opinion	product	function				x		x	2	2	2
50	Maxdome (-), da erst noch brennen	experience	context	competitor		x					1	1	1
50	Deswegen lieber gleich kaufen, vor allem bei langsamer Inet-Verbindung	opinion	context	user	x						1	1	0
50	Künstler sollen selbst (untereinander) entscheiden was passiert	opinion	context	domain	x				x		2	1	0
51	DRM (-)	experience	context	domain		x		x			1	1	1
51	Archivieren wichtig	opinion	context	domain				x			1	1	0
51	Browser (+)	opinion	product	function				x			1	2	1
51	Konfigurierbarkeit (+)	opinion	product	design			x	x			2	2	1
51	Iphone (+)	opinion	product	design	x	x					1	1	1
51	Open Source Plattform	opinion	context	domain	x						1	0	0
51	Gewichtung	opinion	product	function				x		x	1	1	1
51	Wer hat was gekauft?	opinion	product	usp				x		x	2	2	1
51	HD-Stream	opinion	product	usp				x			1	2	2
51	Maxdome (-)	experience	context	competitor		x					1	1	1
51	Begrenzender Faktor: Infrastruktur	opinion	context	infrastructure	x						0	1	0
51	Preis-Leistung stimmt nicht für Streaming	opinion	context	domain		x					1	1	1
51	Bandbreite (-)	opinion	context	infrastructure				x			0	1	1
51	Kritisch	opinion	context	user	x						1	1	0
51	Myspace (Qualität)	experience	context	competitor		x					1	1	0
52	Kauft Musik bei Amazon	action	context	competitor		x					1	1	2
52	Kauf auf Rechnung wäre gut	opinion	context	domain				x			1	1	1
52	Rezessionen wären gut	opinion	product	function				x		x	1	1	1
52	Vorschau: 1 Strophe + Refrain	opinion	product	function				x		x	1	2	1
52	Maxdome (+)	experience	context	competitor		x					1	1	1
52	Cover	opinion	product	function			x	x		x	1	2	1
52	Würde eher Single kaufen	action	context	user	x			x			1	1	1
52	Fazit: bekannte Künstler werden plattform nicht nutzen	opinion	context	domain	x						1	0	1

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
99	Plattform praktisch um an Musik zu kommen	opinion	context	user	x						0	0	1
99	regelmäßiges Kaufen im Internet	action	context	user	x						1	1	1
99	Vertrauen zur Sicherheit	opinion	context	user	x						1	1	1
99	Amazon gut (gibt alles)	experience	context	competitor		x					1	1	1
99	Lieferung verbessern	experience	context	user				x			0	0	0
99	Trackingfunktion	experience	context	user				x		x	1	0	1
99	Packetstation positiv	experience	context	user	x						1	0	1
99	Unterbrochenen Download fortsetzen können	opinion	product	function				x			2	2	2
99	Vorschau funktiion	opinion	product	function				x		x	1	2	1
99	Qualität beschreiben	opinion	product	usp				x		x	1	1	1
99	Universalprogramm	opinion	context	domain				x			1	2	0
99	Coverfunktion gut	opinion	product	function			x	x		x	1	2	1
99	Informationen über Interpret	opinion	product	usp				x		x	1	1	1
99	Liedtexte	opinion	product	usp				x		x	1	1	1
99	Einstellbarkeit von Programm	opinion	product	function				x			1	2	0
99	unnötige werbung (-)	opinion	context	user	x		x			x	1	1	1
99	Muss alles haben	opinion	product	function				x			0	1	0
99	Datenbankfunktion	opinion	product	function				x			2	2	1
99	weltweite verfügbarkeit	opinion	context	infrastructure	x						0	1	1
99	browser	opinion	product	function				x			1	2	1
99	chat (-)	opinion	product	function					x		1	2	1
99	Serviceerereichbarkeit (+)	opinion	product	usp				x	x		1	2	1
99	Geschwindigkeit(+)	opinion	context	infrastructure				x			0	1	1
99	Auf allen möglichen geräten	opinion	product	function			x	x			1	1	1
99	schnell	opinion	context	infrastructure				x			0	1	1
99	10C /Lied	opinion	context	user	x						1	1	1
99	Aktionen: pro Tag 1 Cd billiger	opinion	product	usp	x		x	x			1	1	1
99	Film: ca: 4-6€	opinion	context	user	x						1	1	1
99	beliebig oft kopieren	opinion	product	usp				x			1	1	1
99	beliebig viele geräte	opinion	product	usp				x			1	1	1
99	alles verfügbar	opinion	product	usp	x			x			1	0	0
99	kein DRM	opinion	product	usp				x			1	1	1
99	Einfach! 1-Click	opinion	product	design		x		x			1	2	1
99	Intutitiv	opinion	product	usp			x	x			0	2	0
100	MP'3's Download vor einer Woche	action	context	user	x						1	1	1
100	Unsicherheit mit geldtransfer	opinion	context	domain				x	x		1	2	0
100	Feedback anderer wichtig	opinion	product	usp				x		x	2	2	1
100	grosse auswahl	opinion	context	user	x					x	1	1	1
100	unnötige werbung (-)	opinion	context	user	x		x			x	1	1	1
100	mobilität (+) / schnell	opinion	product	function			x	x			1	1	0
100	max 10C/Lied	experience	context	user	x						1	1	1
100	Sicherheit Transaktion	opinion	product	usp				x			1	2	0
100	Mobilität	experience	product	function			x	x			1	1	0
101	Lädt regelmäßig Filme und Musik runter	action	context	user	x						1	1	1
101	Kauft Bücher online	action	context	user	x						1	1	1

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
101	Erfahrung mit verbindungsabbruch	experience	context	user				x			2	1	1
101	Alleszusammenhaben wichtig (Universalrpogramm)	opinion	product	function				x			0	1	0
101	Cover und Texte nicht so wichtig	opinion	product	usp			x	x		x	2	2	1
101	Anpassungsfähigkeit	opinion	product	design			x	x			1	2	1
101	Interface	opinion	product	design			x				0	1	0
101	installierbares programm	opinion	product	function				x			2	2	1
101	keine mobilität	opinion	context	function			x	x			1	1	0
101	Würde ganzes Album einer Single vorziehen	action	context	user	x			x			1	1	1
101	Würde 1€/CD zahlen	experience	context	user	x						1	1	1
102	Hat schonmal Musik online gekauft	action	context	user	x						1	1	1
102	ebay: Paypal ist gut und einfach	experience	context	domain		x		x			1	2	2
102	Will kein neuen Player installieren.	opinion	product	user	x			x			1	1	1
102	Einfache Bedienbarkeit der Plattform	opinion	product	usp			x	x			0	2	0
102	Will nicht auf ständige Internetverbindung angeweisen sein.	opinion	context	function	x			x			1	2	1
102	Titel sollten sich auf alle tragbaren Geräte kopieren lassen.	opinion	product	usp				x			1	1	1
102	Kauft keine Singles, sondern nur ganze CDs.	action	context	user	x			x			1	1	1
102	Wäre bereit für Musik ohne DRM mehr zu zahlen.	opinion	context	user	x	x					1	1	1
102	Einfache Bedienbarkeit, sicheres Bezahlsystem	opinion	product	usp			x	x			0	2	0
102	Musik über Tauschbörsen runterladen ist einfach und kostet nichts.	experience	context	user	x						1	1	1
103	Tauscht Filme online	action	context	user	x						1	1	1
103	Noch nie online Musik gekauft	action	context	competitor	x						1	1	2
103	Applikation sollte plattformunabhängig sein	opinion	product	function				x			1	2	1
103	Erweiterbarkeit durch Plugins	opinion	product	function				x			1	1	1
103	intutitiv bedienbar	opinion	product	usp			x	x			0	2	0
103	Würde zu ca. 50% des normalen Preises Filme online kaufen	opinion	context	user	x						1	1	1
103	DRM zu kompliziert, daher lieber kein DRM	opinion	context	domain				x			1	1	1
103	Preis ist wichtigstes Kriterium	opinion	context	domain	x						1	1	1

Table 11.65: Anecdote Circles - Germany

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
6	lädt chillout-mp3s kostenlos von "Mercedes-Mixtapes"	action	context	user	x	x					2	1	2
6	Möglichkeit eigenen Preis vorzuschlagen	opinion	product	usp				x			1	1	1
6	Problem mit Minderjährigkeit der Benutzer	opinion	context	domain	x						0	0	1
6	Onlinehandel bietet neue Chancen für kleine Geschäfte	opinion	context	domain	x						0	0	1
6	schlechte Kundenunterstützung bei O2-online-Kunden	experience	context	domain		x					1	1	1
6	bevorzugt persönlichen Kontakt	opinion	context	user	x				x		1	1	1
6	negative Erfahrung mit PayPal	experience	context	domain		x					2	2	0
6	negativ (JackWolfskin): ges Kollektion aber keine Preise online	experience	context	domain		x				x	1	1	2
6	sitzt nie lange vor dem Rechner, kurze Aufnamefähigkeit	action	context	user	x						1	0	1
6	keine illegalen Downloads mehr, Angst vor Ertappt werden	action	context	domain	x						2	1	1
7	kaum Nutzung kostenloser Downloads (Coke-Life)	action	context	user	x						1	1	2
7	hat Auto über AutoScout.de verkauft	experience	context	user		x					1	1	1
7	zu viele Händler bei Ebay und AutoScout, urspr Sinn geht verloren	opinion	context	domain	x	x					1	1	1
7	findet es altmodisch, wenn Firmen keinen guten Onlineauftritt haben	opinion	context	domain			x	x			1	1	1
7	Rabatt bei Onlineverträgen positiv	opinion	context	domain	x						1	0	1
7	negativ, wenn keine Preise online	opinion	context	domain						x	1	1	1
7	häufiger ebay-Nutzer, "eine Art Sucht"	action	context	user	x	x					1	1	1
7	hält Aufnahmen und Konvertierungen von youtube.com für zu umständlich	opinion	context	domain	x	x					1	0	2
7	deutet bei bezahlt downgeloadedten bzw gekauften dig Medien auf einen höheren ideelen Wert hin	opinion	context	user	x						2	1	2
7	Onlinekalender auf das Handy laden	action	context	domain	x					x	1	1	1
8	immer mehr kleine Geschäfte mit Onlinehandel vertreten (Bsp. Weinhandlung der Nachbarn)	experience	context	domain	x						0	0	1
8	lädt sich keine Klingeltöne runter, deutet aber auf starke Nutzung der Jugendlichen hin	experience	context	user	x						0	1	1
8	bevorzugt gekaufte CDs wg Booklet, Bildern, usw	opinion	context	user	x						1	1	1
9	Onlineverträge sind problematisch, falls Probleme auftreten	opinion	context	domain	x						0	1	1
9	kauft Mode fast ausschl online, da sie in Ihrer Stadt nicht die passenden Geschäfte findet	experience	context	domain	x						1	1	1
9	Vertrauen bei Bezahlung muss gegeben sein	opinion	context	domain	x						1	1	1
9	Teils unzureichende pers Produktbewertung durch schlechte Fotos	opinion	context	domain				x		x	1	1	1
9	Sollte Onlineauftritt eines Bekannten bewerten, langweilige gestaltung, "nichts für Mädels"	opinion	product	design			x				2	0	0
9	Markentreue bei Kleidung, da immer gleiche Größe	experience	context	user	x						1	0	1

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
9	Bezahlung per Vorkasse; bei Nichtgefallen Zurücksenden per Postweg	experience	context	domain	x						0	0	1
9	Onliinehandel als Chance für Einzelhandel	opinion	context	domain	x						0	0	1
9	Online: Probleme: teure Servicenummern, keine pers. Betreuung im Laden, Übermittlung von Gefühlen (Wut, Entäuschung) nur schwer mögl	experience	context	domain					x		1	1	1
9	hört Onlineradio (Das Ding)	action	context	user	x						1	1	1
9	iPhone nicht Frauentauglich (optik), zu groß, zu teuer	opinion	product	design	x		x				1	0	1
9	PDAs nützlich, benutzt aber keinen	opinion	context	domain	x						0	0	1
9	kleine Handys ok, müssen aber noch gut bedienbar sein	opinion	product	design			x				0	0	1
9	Sicherheitsbedenken bei Onlinekauf	opinion	context	user	x						1	1	1
10	Filme downloaden und auf Handy (im Bus) anschauen ist praktisch	opinion	context	domain	x						1	0	1
10	DVDs schaut er lieber gemütlich zu Hause	action	context	user	x						2	0	1
10	benutzt tool um Musik kostenlos von youtube.com als mp3s zu speichern	action	context	user	x						2	1	1
10	nach Verweis auf Legalität Vergleich mit Video aufnehmen, Werbung rausschneiden und brennen	opinion	context	domain	x						1	0	1
10	Verweis auf youtube.com und andere Seiten, um rel aktuelle Fernsehserien zu schauen	experience	context	domain	x	x					0	0	1
10	kauft sich CDs nur um wenig erfolgreiche / junge bands zu unterstützen	action	context	user	x						1	1	1
10	hat keinen Bedarf an den meisten on-demand-Handyanwendungen	opinion	context	user	x						1	0	1
26	kauft nur noch selten CDs, wenn dann nur wg Booklet oder Zusatz-Features (Videos oä)	action	context	user	x						1	0	1
26	spielt Online-Rollenspiel (World-of-Warcraft)	action	context	user	x						1	0	1
26	hoher Registriegaufwand bei neuem Spiel führte zu starkem Umsatzeinbruch	experience	product	design				x			1	1	1
26	findet PayPal sehr unsicher, Passwort für Browser, Ausnutzung von Dritten, nicht versichert	opinion	context	domain		x		x			2	2	1
26	findet Account mit Guthabenkonto für das Produkt am besten	experience	product	function				x			2	2	2
26	findet es zu umständlich, CDs konvertieren zu müssen, um sie auf dem mp3-player abzuspielen	experience	context	domain	x						1	0	1
26	hat schlechte Erfahrung mit Rechten an bei musicload.de herunter geladenen mp3s gemacht	experience	context	competitor		x					2	1	1
26	wenn man die Festplatte verschlüsselt, beim Internetanbieter fragt, ob Verbindungsdaten gespeichert werden usw ist illegales herunterladen rel ungefährlich	opinion	context	domain	x						1	0	1
26	hat bei ebay Laptopteile verkauft, Gewinn bringend	experience	context	user		x					1	0	1
26	wurde auf ebay von Unbekanntem angeschrieben, ob er nicht gefälschte Markenware verkaufen möchte	experience	context	domain	x						1	0	1

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
27	hört Onlineradio (lastfm.de) mehr als analoges Radio	action	context	user	x						1	0	1
27	findet ein Musikalbum mit der Zeit zu langeilig, sucht Abwechselung	experience	context	user	x						1	0	2
27	meint, dass viele ("Internet-Kiddies") keine CD-Sammlung, sondern nur noch digitale Medien haben	opinion	context	domain	x						0	1	1
27	hat früher mit Kazaa Musik heruntergeladen, heute nicht mehr, zu gefährlich	opinion	context	domain	x						1	1	1
27	Kommunikation über studiVZ, ICQ und Email	action	context	user		x		x	x		1	1	1
28	hat Songtext von einem unbekannten Lied online eingeben und Lied plus Künstler gefunden	experience	context	domain				x		x	1	1	1
28	Bsp. Onlineverkaufsaktion eines neuen Albums durch die Band (Radiohead) mittels Gebot der Käufer nach individueller Beurteilung mit gutem Erlös für die Künstler	experience	context	domain	x	x				x	0	1	1
28	musikinteressiert, geht auf Musik-Kritik-Seiten und "musicplasma.com" um sich einen Überblick über andere Band seines Geschacks zu verschaffen	action	context	user	x					x	1	1	1
28	erwähnt "Treuhand-Prinzip" beim onlineshopping	experience	context	domain		x		x			2	1	1
28	Zahlungmethode soll sicher, aber dennoch einfach sein	opinion	product	usp			x	x			1	1	1
28	bemängelt Kopierbeschränkung von legal heruntergeladenen und bezahlten mp3s	experience	context	domain				x			1	1	2
28	Strafmaß bei illegalen Downloads angeblich mp3-Anzahl * 100.000 * 1€	opinion	context	domain	x						1	0	1
28	nutzt ebay	experience	context	user		x					1	1	1
28	Freund hat aus Asien gefälschte Ware mitgebracht und bei ebay verkauft	experience	context	domain	x						1	0	1
28	Komntaktiert Freunde fast nur noch über Nachrichtendienst bei studiVZ	action	context	user		x		x	x		1	1	1
29	hat instrumentalen Liedausschnitt onliine gepostet und Antwort bzgl Künstler erhalten	action	context	user				x	x		2	2	1
29	findet "Kunden-die-das-gekauft-haben-kauften-auch-Funktion" bei amazon.de sehr gut	opinion	product	function		x		x			1	1	1
29	nennt "Neteller" als Alternative zum Treuhandverfahren	experience	context	domain		x					1	1	1
29	hat Freund bei ebay auf seine Auktion mitsteigern lassen	experience	context	domain	x						2	1	2
29	bei Tauschbörse muss man auch Daten zum Download zu Verfügung stellen (Bsp: Bit-torrent, E-mule)	experience	context	domain	x						0	0	1
29	bekommt viele Spam-Mails (Bsp: auch RHRK)	experience	context	domain					x		0	0	1
30	kauft ab und zu bei ebay, zweifelt aber den Wahrheitsgehalt der Rezensionen an	experience	context	domain	x	x				x	1	1	2
30	braucht bei Kleinigkeiten kein PayPal	experience	product	function		x					2	2	1
30	bevorzugt Email vor Telefon	action	context	user					x		1	1	1

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
30	im Internet kann man leicht Zeit verschwenden, ist aber eine Sache der Selbstdiziplin	experience	context	domain	x						0	0	1
30	Onlinefotoalben sind praktisch, da man keine Abzüge nachmaen und weitergeben muss	experience	context	domain	x						1	0	1
30	fragt sich, wie lange es noch diese Form von web 2.0 geben wird, da der eigentl Informationsaustausch gering bzw. diese oft sinnlos sind	opinion	context	user	x						1	0	1
30	Zweifelt Echtheit online bestellter Ware an	opinion	context	domain	x					x	1	1	1
30	hört am liebsten Radio via UKW	action	context	user	x						1	0	1
30	Fotos in "studiVZ", "facebook" oder "myspace" sind zT nur noch Selbstdarstellung; Gefahr dass das Leben nichr mehr im kontrollierbaren privaten Rahmen veläuft	experience	context	domain	x					x	1	1	1
31	Vergleich mit myspace, um als Künstler bekannt zu werden	experience	context	competitor		x					1	1	1
31	kein Ebay-nutzer	experience	context	user	x						1	0	1
31	kauft online, findet Bewertungen gut	opinion	product	function				x		x	1	1	1
31	bezahlt nur äußerst ungern für Musik	opinion	context	user	x						1	1	1
31	Vorteil von Produkt, myspace u.Ä: Musik wird qualitativ besser	opinion	context	domain	x						1	0	1
31	hat bei ebay Zweifel bei Verkäufern mit wenig Bewertungen	opinion	context	domain						x	1	1	1
31	benutzt lieben Amazon anstatt "Sofortkauf" bei ebay	action	context	user		x					1	1	1
31	benutzt online-Videorecorder und ist zufrieden	experience	context	domain	x						1	0	1
31	benutzt Voice-over-IP	action	context	user				x	x		1	1	1
31	sucht oft online nach Informationen	experience	context	user						x	0	1	1
31	braucht kein Internet um sich abzulenken	action	context	user	x						0	0	1
31	sieht keine Gefahr bei Veröffentlichung von Fotos	opinion	context	domain	x					x	1	1	1
31	findet mp3s übersichtlicher als CD-Sammlung	opinion	context	domain	x						0	0	1
32	Bedeutung des Internets wird überschätzt	opinion	context	user	x						1	0	1
32	Telefon ist direkter	opinion	context	user					x		0	1	1
32	direkt braucht er das Internet eigentl nicht, höchstens noch für Emails	opinion	context	user	x						1	0	1
32	findet Viedeotelefonie gut	opinion	context	user					x		1	1	1
32	will im Internet nicht zuviel von sich preisgeben, sieht Gefahren	opinion	context	domain	x					x	2	1	1
32	hat Kleidung online bestellt, Größe passte nicht	experience	context	domain	x						0	0	1
32	braucht mp3-player nur zum joggen	opinion	context	user	x						1	0	1
32	hat sich vor 2 Wochen die letzte CD gekauft, sonst nur sehr selten	action	context	user	x						1	1	1
33	Problem an Produkt: Arbeitsplatzwegfall bei den Musiklabeln	opinion	product	usp	x						2	0	1
33	Onlinekauf: Kleidung und Laptop	experience	context	user	x						0	0	1
33	sieht keine Zukunft im CD-Verkauf	opinion	context	domain	x						1	0	1
33	lobt Internetforen und dienste wie skype zum pflegen von Kontakten	opinion	context	user					x		1	1	1

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
33	findet die Idee von Video-on-demand gut, nicht aber die Preise	opinion	context	user	x						1	1	1
33	sieht Gefahren im Internet wie z.B. Datenklau, Phishing etc	opinion	context	user	x			x			1	1	1
33	Terminplanung via google-calendar	opinion	context	user	x						1	0	1
33	hört unterwegs viel Musik mit mp3-player	action	context	user	x						1	1	1
76	Flugtickets online günstiger als im Reisebüro gebucht	experience	context	domain		x					1	0	1
76	würde bei ebay nie Kreditkartennummer angeben	opinion	context	user	x						1	1	1
76	nutze online Reiseberatung, individuelle und aktuelle Tips	experience	context	user						x	1	1	1
76	Flug online mit Kreditkarte gekauft	experience	context	user				x			1	1	1
76	nutze häufig Onlinetelefonie aus dem Ausland	action	context	user					x		1	0	1
76	betreut als HiWi einen Onlinestudiengang/Fernstudiengang (Kontakte unter den Studenten fast ausschließlich online)	experience	context	domain	x						1	0	1
76	hat aus dem Ausland oft via Internet deutsches Radio gehört	experience	context	domain	x						1	0	1
76	lädt sich viel Musik auf Rechner und mp3-player	action	context	user	x						1	1	1
76	Musik auf mp3-player aber oft auch illegal	action	context	user	x						1	1	1
77	skeptisch ggü Onlinehandel	opinion	context	domain	x						1	1	1
77	sucht sich die Produktinfos online und kauft im Laden	experience	context	user	x						1	0	1
77	nicht klar, wer bei Onlinebestellungen mit Postversand im Schadensfall zuständig ist	opinion	context	domain						x	1	0	1
77	Vertraut Online-Routenplanern nicht zu 100 %	opinion	context	user	x						1	0	1
77	bevorzugt Bargeld, da er als Informatiker der Meinung ist, das alles digitale auch gehackt werden kann	experience	context	user	x						1	1	1
77	Bargeld als Selbstkontrolle	opinion	context	user	x						1	0	1
77	Onlinetelefonie hat bei ihm das "normale" Telefon ersetzt	action	context	user					x		1	0	1
77	bestellt Abzuge von Digitalfotos im Internet	action	context	user	x						1	0	1
77	"Man muss nicht alles wissen, man muss nur wissen, wo es steht, …und es steht bei google!"	opinion	context	user	x						0	0	0
77	spielt Onlinerollenspiel um Kontakt mit Freunden von zu Hause beizubehalten	action	context	user	x				x		1	0	1
77	nutzt häufig Onlineradios	action	context	user	x						1	0	1
78	nutzt häufig ebay	action	context	user		x					1	1	1
78	Buchung eines Bahntickets ist online 5 € günstiger	experience	context	domain		x					0	0	1
78	lässt sich Bahnverbindung am Schalter heraussuchen und kauft dann günstiger am Automaten	experience	context	user	x						1	0	1
78	keine Bedenken bei Onlinebanking	opinion	context	user	x						1	1	1
79	Ferienwohnung online gesucht, direkter Kontakt zum Vermieter	experience	context	user				x	x		1	1	1
79	gibt ungern online die Kreditkartennummer an	opinion	context	user	x						1	1	1

User no	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
79	sucht bei Onlinediensten nach renomierten Namen	action	context	user	x						1	1	2
79	Negativbeispiel Usability: Deutsche Bahn	experience	product	design		x	x	x			1	1	1
79	generelles Vertrauen in Onlinedienste nicht möglich, da es starke Qualitätsunterschiede gibt	opinion	context	domain	x						1	1	2
79	Spiegel-online als Ersatz für Tageszeitung	action	context	user	x						1	0	1
79	nutzte Onlineradio bzw youtube.com auf WG-Party, da jeder seine Lieblingsmusik wünschen konnte und diese auch verfügbar ist	action	context	user	x	x					1	1	1
80	nutzt Onlinebanking ohne Bedenken	action	context	user	x						1	1	1
80	nutzt Onlineroutenplaner	action	context	user	x						0	0	1
80	hat zur Zeit kein Internet und nutzt es auch nur sehr selten	action	context	user	x						0	0	1
81	nutzt ebay und Onlineticketservice	action	context	user		x					1	1	1
81	Internet als Informationsquelle	experience	context	user	x						0	0	1
81	informiert sich vor einem Asrztbesuch im Internet, was es sein könnte	experience	context	user	x						1	0	1
81	sucht vor Einkauf im Geschäft online nach Informationen	action	context	user	x						1	0	1
81	nutzt Onlineroutenplaner, kontrolliert aber immer nach	action	context	user	x						1	0	1
81	hat Flug und Hotel bei opodo.de gebucht	experience	context	domain		x					1	1	1
81	kann sich eine Welt ohne Internet nicht mehr vorstellen	opinion	context	user	x						0	1	1
81	Spiegel-online als Ersatz für Tageszeitung	action	context	user	x						1	0	1
81	Emailverkehr ist vertragssicher	opinion	context	domain					x		1	1	1
81	lädt sich Musik illegal kostenlos aus dem internet	action	context	user	x						1	1	1
81	sieht im Internet ein großes Suchtpotential	opinion	context	user	x						0	0	1

Table 11.66: Inspiration Card Workshop - Germany

User	domain	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
16	Kauf	Zahlung zeitnah	opinion	context	domain	x						1	1	1
16	Daheim	Bücher und Lesen hat mit digitalen Dingen nichts zu tun	opinion	context	user	x						1	0	1
16	Entertainment	Möchte gerne online spielen und monatlich zahlen	opinion	context	user	x			x			1	1	1
16	Gruppe	Feedback als Email an Hersteller	action	context	domain					x		1	1	1
17	Gruppe	Empfehlung von anderen	opinion	context	domain						x	1	1	1
17	Daheim	Isolation wenn man nur alleine arbeitet	opinion	context	user	x						0	0	1
17	Daheim	Freizeit und daheim differenzieren	experience	context	user	x						1	0	1
17	Gruppe	Chat, Telefonkonferenz	opinion	context	domain					x		1	1	1
18	Entertainment	Spiele!	opinion	context	user	x						0	0	0
18	Daheim	Suche steht über allem	opinion	context	domain						x	1	1	0
18	Entertainment	Bookmarks... Wen interessiert das?	opinion	context	user						x	0	0	1
18	Kauf	Feedback , evaluation, rating sind wichtig	opinion	context	user	x					x	1	1	1
18	Teilen	upload als erstes	opinion	context	domain				x			1	1	0
18	Daheim	Daten werden eher offline angesehen	opinion	context	user				x		x	1	1	1
18	Entertainment	Entertainment als Zugabe für Mitliedschaft frei	opinion	product	usp	x						1	1	1
19	Gruppe	Verweis auf open source	opinion	context	domain		x					0	0	0
19	Teilen	Upload	opinion	context	domain				x			1	1	0
19	Daheim	Suchfunktion wichtig	opinion	context	domain						x	1	1	1
19	Teilen	Downloadvorgang	opinion	context	domain				x			1	1	0
19	Teilen	Teilen eher privat	opinion	context	user	x						1	0	1
19	Daheim	Upload von Daheim	opinion	context	domain	x						0	0	1
19	Kauf	Vor Kauf Produktbeschreibung lesen	action	context	user						x	1	1	1
19	Gruppe	Email kann wohl jeder was anfangen	opinion	context	user					x		1	1	1
19	Teilen	Wo die Daten herkommen ist egal. Hauptsache man kann sie Downloaden	opinion	context	user	x						1	1	1
20	Gruppe	Freunde, Netzwerk, Gruppe	opinion	context	user	x						0	0	0
20	Gruppe	Soziale Faktoren müssen beachtet werden	opinion	context	user	x						1	1	0
20	Daheim	Produktbewertung schreiben/lesen	action	context	user						x	1	1	1
20	Teilen	Datei Management betreiben	opinion	context	domain				x			1	1	1
20	Daheim	Suchen generell wichtig	opinion	context	domain						x	1	1	1
20	Kauf	Profil speichern, wegen Zahlungsdaten	action	product	function				x			1	1	1
20	Gruppe	Feedback nach Nutzung	action	context	domain					x		1	1	1
20	Kauf	Beschreibung lesen > Kaufen > Bewerten	action	context	domain	x					x	1	1	1
22	Daheim	daheim Filme ansehen	action	context	user	x						0	0	1

User	domain	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
22	Daheim	Connection MediaPlayer, VideoStreams	opinion	context	domain				x			1	1	1
22	Teilen	Google gibt eine Übersicht	opinion	context	user						x	1	0	1
22	Teilen	Forum, Upload, Video	opinion	product	function				x	x		1	1	1
22	Teilen	Google ist die Spinne im Netz	opinion	context	domain	x						1	0	1
22	Freunde	Gästebuch als Forum	opinion	product	function				x	x		1	2	1
22	Freunde	Filme. Emails, reden, ausgehen	action	context	user	x						0	0	1
22	Freunde	Fun	opinion	context	user	x						0	0	0
22	Gruppe	Chat, Avatar, Invite a friend	opinion	context	domain				x			0	1	0
22	Gruppe	Gruppen sind wie Clubs	opinion	context	user	x						1	0	1
22	Gruppe	Offline Treffen	opinion	context	user	x						1	0	1
22	Entertainment	Bücher, Filme, Radio, WWW	opinion	context	user	x						0	0	1
23	Daheim	online Banking	action	context	domain	x			x			1	0	1
23	Daheim	Der einzige Ort wo ich online gehe	opinion	context	user	x						1	0	1
23	Daheim	Bookmarks hat man zu hause	experience	context	domain						x	2	1	1
23	Teilen	Produktbeschreibung schreiben/lesen	action	product	function				x		x	0	1	1
23	Teilen	File Transfer	action	product	function				x			0	1	1
23	Teilen	Exchange of Opinions	action	context	user					x		1	1	1
23	Teilen	You share information	action	context	user					x	x	1	1	1
23	Freunde	Online Mingeling	action	context	user	x						1	1	1
23	Freunde	Differenzierung: Austausch von Meinungen und Spass	opinion	context	user	x					x	1	1	1
23	Gruppe	email Verteiler	opinion	product	function				x	x		1	2	1
23	Gruppe	Wikis benutzen	opinion	context	user						x	1	1	1
23	Entertainment	consuming sports	action	context	user	x						0	0	1
23	Entertainment	Games connects friends	opinion	context	user	x						1	0	1
23	Entertainment	Reading ebooks on notebooks in backyards	action	context	user	x						1	0	1
24	Daheim	Upload Games	action	context	domain	x						1	1	0
24	Daheim	WWW und email	opinion	context	domain					x	x	0	0	1
24	Teilen	Bilder hochladen	action	context	user	x			x			1	1	1
24	Freunde	Bücher und Musik eher offline	action	context	domain	x						1	1	1
24	Freunde	Exchange of Opinions	action	context	user	x						0	0	1
24	Freunde	Sharing is a group activity	opinion	context	user	x						0	0	1
24	Teilen	games and movies belong to social contacts	opinion	context	user	x						0	0	0
24	Gruppe	Spielen, Upload, Youtube	action	context	user	x						1	1	1
24	Gruppe	File sharing Sports, group activities	action	context	user	x						1	0	1
24	Entertainment	jemanden googlen	action	context	user	x						1	0	1
25	Teilen	download, Gaming	opinion	context	domain				x			0	1	0
25	Teilen	phone conference	opinion	context	domain					x		1	1	1
25	Freunde	Google ist ein Teil von Allem	opinion	context	domain	x	x					1	0	1

User	domain	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
25	Freunde	In Foren und Gästebüchern sind normalerweise Fremde	experience	context	domain					x		1	0	1
25	Entertainment	conferences, download, streaming, pc gaming	action	context	user	x						0	0	1
25	Entertainment	Bilder, Drinnen und Draußen Unterhaltung	action	context	user	x						1	0	1
35	Daheim	Feedback is important	opinion	context	user						x	1	1	1
35	Daheim	google is the center of the taxonomy	opinion	context	user		x		x		x	1	1	1
35	Daheim	Zugriff durch google	action	context	domain				x			1	1	1
36	Bibliothek	Bücher sind nicht wichtig	opinion	context	user	x						0	0	1
36	Freunde	eCards verschicken	action	context	user	x						1	0	1
36	Gruppe	download ist das Endprodukt des internets	opinion	context	domain	x						0	0	0
36	Bibliothek	Google, Bücherei, Bücher	opinion	context	user						x	0	0	1
36	Gruppe	Videostream als Quelle und als Produkt	opinion	context	domain	x						0	0	0
36	Entertainment	Entertainment ist der Vater alles anderen	opinion	context	user	x						2	1	1
36	Bibliothek	Amazon ist keine Bibliothek	opinion	context	domain		x					1	0	1
37	Teilen	kein Teilen ohne Freunde	opinion	context	user	x						1	1	1
37	Entertainment	vor dem Download sollte man zahlen	opinion	context	domain				x			1	1	1
37	Freunde	Freunde als informationsquelle	experience	context	user	x					x	2	1	1
37	Freunde	Informationen von Freunden sind besser als Informationen von google	experience	context	user	x					x	2	1	1
37	Freunde	Feedback geben	action	context	user					x		1	1	1
37	Entertainment	reading doesn't match download (Download und lesen passen nicht zueinander)	opinion	context	user	x						0	0	1
37	Freunde	Produktinformationen sind notwendig für die Kaufentscheidung	opinion	context	domain						x	1	1	1
37	Freunde	Differenzierung: Meinungsbeschaffung und Produkt	opinion	context	user						x	1	1	1
37	Daheim	benutze fast keine Chats	experience	context	user	x						1	0	0
37	Daheim	multimodale Kommunikation	opinion	context	domain	x						1	1	1
37	Entertainment	einige grosse läden könnten auch online Handel treiben	opinion	context	domain		x					1	0	1
38	Daheim	alles von zuhause	action	context	user	x						1	0	0
38	Freunde	Freunde sind wichtiger als Google	opinion	context	user	x				x		1	1	1
38	Entertainment	Informationen sind Produkte	opinion	context	domain	x						1	0	1
38	Entertainment	Spiele, Musik	action	context	user	x						0	0	1
38	Gruppe	Download muss kostenlos sein	opinion	context	domain	x						1	1	1
38	Entertainment	Ich will für DM zahlen	opinion	context	user	x						1	1	1
39	Daheim	Second life avatars	opinion	context	user	x						1	0	0

User	domain	Idea	info-type	target - level 1	target - level 2	Lifstyle	Product/Service referred to	Design Preferences	Funtional Requirements	Communicational Requirements	Informantional Requirements	uniqueness	relevance	clearness
39	Entertainment	Spielen verbindet einander	opinion	context	user	x				x		2	1	1
39	Teilen	Emails, SMS, mobileWWW	opinion	context	domain					x		1	1	1
39	Teilen	Feedback could be placed everywhere	opinion	context	domain						x	1	1	1
39	Verstehen	Video/Telephone conferences	opinion	context	domain					x		1	1	0
39	Teilen	Teilen heißt "nicht bezahlen"	opinion	context	user	x						1	0	1
40	Freunde	eCards verschicken	action	context	user	x						1	0	1
40	Daheim	You can do everything at home	opinion	context	user	x						1	0	0
40	Bibliothek	Google ist allgegenwärtig	opinion	context	user		x					1	0	1
40	Teilen	Upload wird mehrheitlich von zu hause aus gemacht	experience	context	domain	x						0	0	1
40	Freunde	Forum gehört zu Freunden	opinion	context	user					x		1	1	1
40	Teilen	Feedback is unnecessary	opinion	context	user	x					x	1	1	1
40	Teilen	Internet is Sharing	opinion	context	user	x						1	0	1
40	Teilen	Ein System wie das sollte kostenlos sein. Andernfalls witzlos	opinion	context	user	x						1	0	1
40	Entertainment	Payment is important for everything	opinion	context	domain	x						1	1	1
41	Freunde	emails to friends	action	context	user					x		1	1	1
41	Daheim	chat connects friends with home	opinion	context	user					x		1	1	1
41	Musik	Music is primarily uploaded	opinion	context	domain				x			0	1	0
41	Freunde	Video/Telephone conferences	action	context	user					x		1	1	1
41	Entertainment	Die Bezahlung steht im Mittelpunkt des Systems	opinion	product	function				x			1	1	1
42	Entertainment	World of Warcraft	action	context	user	x						0	0	0
42	Entertainment	Online Gaming	action	context	user	x						0	0	0
42	Freunde	Getting to know friends via the web	action	context	user	x				x		1	1	1
42	Daheim	Profiles im Forum/Chat	opinion	context	domain					x	x	1	1	0
42	Daheim	Zuhause ist der Ort wo du freiwillig am meisten zeit verbringst	experience	context	user									
42	Teilen	Wissen teilen	opinion	context	user	x						1	1	1
42	Teilen	Produktvergleiche schreiben	action	context	domain				x		x	1	1	1

Curriculum Vitae

Name	Björn-Michael Braun
Address	Schweizer Strasse 78 60594 Frankfurt am Main Germany
Email	bjoern@sellyourrights.com
Date of birth	23. November 1980
Place of birth	Bad Kreuznach, Germany
Nationality	German

Education

Since July 2006	**Doctoral candidate** at the University of Kaiserslautern, Germany, Centre for Human-Machine-Interaction, Group for User-Centred Product Development *Supported by a scholarship of the post-graduate sponsorship programme of the State of Rhineland-Palatine*
October 2000 to July 2006	Diploma Course of ***Wirtschaftsingenieurwesen*** (Master of Business and Engineering (mechanical) equivalent) at the University of Kaiserslautern, Germany Graduation July 2006; final grade: 1,7
September 2003 to December 2003	**MBA-Programme** at the College of Business Administration of Seoul National University, Korea as an exchange student *Full scholarship of the German Academic Exchange Service (DAAD) financing the studies abroad*
March 2003	**Diplomvorprüfung** (Bachelor of Business and Engineering equivalent) at University of Kaiserslautern, Germany
June 2000	**Abitur** (General University Entrance Exam) at Lina-Hilger-Gymnasium Bad Kreuznach, Germany

Professional Experience

Since August 2008	**Entrepreneur** and founder of **SellYourRights**. *First round seed-investment received through an EXIST-founder-scholarship (EXIST-Gründerstipendium) of the federal government in conjunction with the European Social Fund.*
July 2006 to July 2008	Industry **consulting** in the areas of usability-engineering, cross-cultural usability engineering and user-centred product development. Engagements in project-acquisition, -management and -execution. Projects in Germany and abroad.
September 2007 to November 2007	**Visiting researcher** at the Human Centred Interaction Design Laboratory at the Department of Industrial Design of the Korea Advanced Institute of Science and Technology (**KAIST**), Korea: Research on user-centred product development in Korea; field-study on the applicability of user-analysis methods; leading a team of 11 researchers *Doctoral scholarship of the German Academic Exchange Service (DAAD)*

	supporting the research abroad
July 2007 to August 2007	**Visiting researcher** at the Sino European Usability Centre of Dailan Maritime University, **China**: Research on user-centred product development in China and field-study on the applicability of user-analysis methods; leading a team of 7 researchers
September 2005 to December 2005	Analysis of **localization requirements** for a driver information system for the Korean market at Harman International, Seoul, **Korea** (on behalf of HarmanBecker Automotive Systems GmbH)
April 2005 to July 2005	Analysis of cognitive requirements of an enterprise-wide **risk-management process** at DaimlerChrysler Korea Ltd., Seoul, **Korea** (sponsored by DaimlerChrysler Services Korea Ltd.)
February 2004 to June 2004	**Controlling**-Internship at DaimlerChrysler **Korea**, Limited: company-wide process review, documentation and optimization; development and implementation of a new corporate procurement process
September 2002 to June 2003 and August 2004 to March 2005	**Scientific assistant** at the Institute for Distance Studies and Further Education (ZFUW) of the University of Kaiserslautern, Germany: Focus on Management of Social and Health Institutions and Total Quality Management.
November 2002 to December 2002	**Technical** Internship at Adam Opel Ag, Germany: technical service and machine maintenance in sheet metal forming; performance testing and quality assurance in engine test-bed
February 2001 to April 2001	**Technical** Internship at G. M. Pfaff Ag, Germany: milling, filing, drilling, welding; prototype construction; metal surface treatment